Medical Lib. MAY 19 1928

This Issue Exceeds 95,000 Copies

THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 20 Cents

VOLUME 90, No. 20 | 535 North Dearborn Street, CHICAGO, ILL. | MAY 19, 1928

CONTENTS AND SUBJECT INDEX

Heliotherapy and Artificial Light: Treatment of Tuberculosis, Particularly of Larynx. Ove Strandberg, M.D., Copenhagen, Denmark.....1595

Differential Jugular Blood Cultures in Sinus Thrombosis. Reuben Ottenberg, M.D., New York.....1602

Convalescent and Antitoxic Serums in Scarlet Fever. J. E. Gordon, M.D.; B. B. Bernbaum, M.D., and L. C. Sheffield, M.D., Detroit.....1604

Diphyllobothrium Latum in Massachusetts. E. G. McGavran, A.B., and Mahidol Songkla, C.P.H., Boston.1607

O-Iodoxybenzoic Acid in Infectious Arthritis. H. C. Stein, M.D., and Norman Taube, M.B., New York....1608

Muscular Attachments of Tonsil. R. H. Fowler, M.D., New York, and T. Wingate Todd, F.R.C.S., Cleveland...1610

Secondary Palate Defects. Frederick B. Moorehead, M.D., Chicago.....1614

Pseudarthrosis of Tibia in Children. R. B. Dillehunt, M.D., and J. F. LeCocq, M.D., Portland, Ore....1615

Köhler's Disease of Tarsal Scaphoid. Morton Seldowitz, M.D., and Leo Zimtbaum, M.D., Brooklyn.....1617

CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

Prenatal Rupture of the Intestine with Subsequent Dystocia. J. H. Skiles, M.D., Oak Park, Ill.....1618

Treatment for Split Finger-Nails. W. W. Carter, M.D., New York.....1619

Measuring Cerebrospinal Fluid Pressure. T. C. Greene, M.D., Peking, China 1620

Diphtheria of the Penis. J. Fredric Prinzing, M.D., Denver.....1620

SPECIAL ARTICLES

Diphtheria Mortality in Large Cities of United States in 1927.....1621

Typhoid in the Large Cities of the United States in 1927.....1624

COUNCIL ON PHARMACY AND CHEMISTRY 1627

SOCIAL MEDICINE AND MEDICAL ECONOMICS

Satisfactory Venereal Disease Clinic. W. Ray Jones, M.D., Seattle.....1656

EDITORIALS

The Origin of Urinary Protein.....1628

Posture and Kidney Function.....1628

Insensible Perspiration and Metabolism 1629

Alterations of Brain Volume and Blood Volume 1630

CURRENT COMMENT

Thyroid Therapy in Childhood.....1630

The Wright Tuberculosis Treatment—A Correction 1631

(Subject Index on next page)

ASSOCIATION NEWS 1631

Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on June 14, 1918. If undeliverable, return postage is guaranteed

Copyright, 1928, by the American Medical Association. NEXT ANNUAL SESSION, MINNEAPOLIS, MINN., JUNE 11-15, 1928

BOOKS

An important contribution to medical literature from the Mayo Clinic is announced today on Page 3.

JUST READY

Pelouze on Gonorrhea

Dr. Pelouze strikes out into new channels. He avoids the formal style and presents instead a simple, outspoken presentation of gonorrhea as he has met it in practice. He sweeps aside all confusion and gives a clear statement of *how* to diagnose, *how* to treat, and *how* to prevent this prevalent disease. Years of experience are summed up and presented in simple language. It is a book for the practitioner—*from title to index!*

Pathology, susceptibility, mode of infection, incubation, symptoms and causes of symptoms, clinical course and complications—these are first given. Then Dr. Pelouze goes into a very definite discussion of treatment, hygiene, oral medication, vaccines, prostatic massage, evidences of cure and many other important phases of the subject which are of immediate interest to the general practitioner.

Gonococcal Urethritis in the Male. For the Practitioner. By P. S. Pelouze, M.D., Associate in Urology and Assistant Genito-Urinary Surgeon, University of Pennsylvania. Octavo of 351 pages, illustrated. Cloth, $5.00 net

Another SAUNDERS BOOK on Page 3

SUBJECT INDEX TO THIS ISSUE

The letters used to explain in which department the matter indexed appears are as follows: The Star (*) indicates an Original Article; "ab," abstract; "E," Editorial; "C," Correspondence; "Ml," Medicolegal; "ME," Medical Economics.

A. M. A. auto routes to Minneapolis.....1631
Abdomen in asthenics and sthenics.....ab-1676
Accidents, street, increase, London.....1640
Acid, hydrocyanic, vs. tumor growth....ab-1674
Acidosis in acute enteritis.....ab-1678
in athletes after running.....ab-1678
Acromioclavicular dislocation ab-1668
Actinomycosis, radium for.....ab-1671
Adenoids relation to tonsils.....*1610
Anemia, chronic, tropical.....ab-1673
secondary, liver diet in.....1650
Anesthesia, spinal, in peritonitis.....ab-1673
Angina Pectoris in children.....ab-1669
"Angiostaxis" ab-1670
Antibody production in infants.....ab-1674
Appendicitis, chronic, roentgen diagnosis.ab-1673
Arteritis, juvenile ab-1672
Arthritis, *o*-iodoxybenzoic acid in.....*1608
Association News **1631**
Asthma, result of tuberculous infections.ab-1676
Automobile exhaust gas, dangers.....ab-1668
Bacillus enteritidis septicemia.....ab-1665
Biliary Tract sepsis, acriflavine in.....ab-1673
Bismuth in tumors.....ab-1676
Blackwater Fever, pathogenesis.....ab-1674
Blood, carbon dioxide tension.....ab-1677
cultures, jugular, in sinus thrombosis..*1602
phosphorus in health and disease....ab-1670
vessels vs. genesis of tar tumors.....ab-1676
volume vs. brain volume alterations...E-1630
Book Notices **1656**
Books Received **1659**
Brain and blood volume alterations.....E-1630
Breast abscess, abortive treatment.....1652
Bronchitis, chronic, quartz light therapy.ab-1665
Bronchus sputum, amebas in.....1641
obstruction with tuberculosis.....C-1648
Bubo, climatic, intracutaneous reaction..ab-1674
Bureau of Investigation.....**1647**
Butesin picrate, possible effects.....1653
Cancer, Roffo's reaction.....ab-1676
cell, sensitiveness to heat.....1644
diagnosis, early 1644
keratosis senilis relation to.....1641
Ringold test 1644
Carbuncle, angular vein ligation in....ab-1669
Cerebellum, tumor, surgery for.....ab-1678
Cerebrospinal Fluid pressure, measuring..*1620
pressure vs. hypertonic and hypotonic solutions E-1630, ab-1672
Cesarean Section, postmortem.....ab-1677
vaginal ab-1663
Chancroid, vaccination ab-1673
Cinchophen poisoning ab-1670
Colds, hemolytic anaerobic diplococcus in.ab-1666
Compensation of Physician, liability of estate Ml-1660
Constipation, etiology ab-1667
Correspondence **1648**
Council on Pharmacy and Chemistry.....**1627**
Craniotabes not a rachitic sign.....ab-1675
Dandruff, treatment 1652
Deafness, industrial, prevention.....1644
Death of human heart.....ab-1674
Deaths **1645**
Diathesis, hemorrhagic, "angiostaxis"..ab-1670
Diphtheria of penis.....*1620
mortality in large cities.....*1621
Dysentery ameba in bronchial sputum.....1641
Dysmenorrhea and intestinal worms....ab-1672
pessary for C-1649
Eclampsia, carbohydrate metabolism in..ab-1663
Embolectomy, femoral, treatment.....ab-1667
Emigrants, medical examination.....1639
Empyema, pneumococcus, ethylhydrocuprein hydrochloride in ab-1675
Encephalitis periaxialis diffusa.....ab-1669
Endocarditis, subacute infective juvenile..ab-1669
Epidermophytosis, treatment ab-1674
Epilepsy and pregnancy.....ab-1674
Epithelioma, roentgen formula for.....1653
Ethylene, explosiveness 1650
Extremities fractures and dislocations...ab-1672
Feces, tetanus bacilli in.....ab-1670
Fetus, intestinal rupture.....*1618
oxygen needs ab-1677
Fever, Kahn reaction in.....ab-1665
Fish host of tapeworm.....*1607, C-1650
Fistula, menstral ab-1668
Foot-and-Mouth Disease, prevention.....1639
Foreign Letters **1639**
Fractures, negligence in not using X-rays..1640
Fumigation, regulations 1642
Gallbladder, emptying, mechanism.....ab-1668
function, surgical intervention.....ab-1668
roentgen study, fatal tetraiodophenolphthalein administration ab-1670
Gold, colloidal, preparation.....ab-1665
Gonorrhea, milk injections for.....1652
Government Services **1638**
Growth vs. thyroid therapy.....E-1630
Heart, human, death of.....ab-1674
disease, basal metabolism in.....ab-1673
disease, obstetrical indications in.....1650
Heliotherapy.....*1595, ab-1675, ab-1676
Hemichorea, pathology.....ab-1669
Hill-Flack's Sign, clinical value.....ab-1672
Hospitals, private, state supervision.....C-1650
Hypernephroma ab-1677
Hyperthyroidism from pyelitis.....ab-1672
Immunization, sterilizing needles before...1652
Infections, local, vs. mercurochrome...ab-1668
Infectious Diseases, center for patients with hypersusceptibility 1644
Insanity, certifying, physicians refuse to risk 1640
Insurance, accident, disease intervening after injury Ml-1661
health, troubles, England.....1639
Intestines rupture, prenatal.....*1618
inflammation, acidosis in.....ab-1678
parasites and dysmenorrhea.....ab-1672
Intracranial Pressure, alterations.....E-1630
Kahn Test in febrile diseases.....ab-1665
compared with Wassermann.....ab-1673
Keratosis senilis vs. cancer.....1641
Kidney, contracted ab-1677
disease, basal metabolism in.....ab-1673
function and posture.....E-1628
hypernephroma ab-1677
Köhler's Disease of tarsal scaphoid.....*1617
Labor, symphyseotomy in ab-1673
dystocia from fetal intestinal rupture...*1618
indications in heart disease.....1650
Larynx obstruction, coniotomy in.....ab-1668
tuberculosis, heliotherapy *1595
Lead water and laudanum solution.....1652
Leprosy, atypical, "clappa".....ab-1674
blood cholesterol in.....ab-1673
Leukemia, mononuclear phagocyte.....ab-1664
Libel: charge of practicing without registration Ml-1661
Liver disease of early syphilis.....ab-1664
diet in secondary anemia.....1650
Lungs, innervation ab-1671
Malaria, epidemiology in Palestine.....ab-1664
control, Turkey 1642
precipitin test in.....ab-1666
therapeutic, in neurology.....ab-1671
Malpractice, skill, degree required.....Ml-1660
Marriages **1644**
Maternal mortality, preventing.....1640
Medical Education, Registration.....**1653**
Medicolegal **1660**
Meetings, Coming Meetings.....**1662**
Meninges hemorrhage, delayed ab-1678
Mercurochrome, toxicity ab-1666
effect on local infections.....ab-1668
Metabolism, Basal, vs. thyroid therapy..E-1630
insensible sweating and.....E-1629
Moles, removal 1650
Myopia, massage treatment by quack.....1641
Nails, paronychiae at base of.....1652
split, treatment *1619
Narcotic addicts, wholesale trial of.....1641
Necropsy, compensation of physician, liability of corporation for.....Ml-1662
Negroes, tuberculosis mortality.....ab-1666
Neuralgia, trigeminal, with sclerosis....ab-1669
Neuritis, intercostal, possible.....1651
New and Nonofficial Remedies.....**1627**
News **1632**
Nitrogen metabolism vs. salicylates.....ab-1666
Nursing homes, state supervision.....C-1650
Obesity vs. sterility.....ab-1670
Opium, lead water and laudanum solution.1652
Ovary grafts 1643
Oxygen needs of fetus.....ab-1677
Palate defects, secondary, correction.....*1614
Pancreas, fat necrosis.....ab-1670
Paralysis, peripheral, facial.....ab-1671
Parathyroid extract in tonsillectomy.....1651
Paronychiae at base of nails.....1652
Paternity, tests to determine.....1652
Penis, diphtheria *1620
Peptic Ulcer, partial gastrectomy in.....ab-1667
Peritoneum hemorrhages in fibromyoma..ab-1674
Peritonitis, spinal anesthesia in.....ab-1673
pneumococcus, in children.....ab-1675
Pessary, passing of.....C-1649
Phagocyte, mononuclear ab-1664
Pharmacies, number reduced.....1642
Phlebitis, acute syphilitic.....ab-1665
Phototherapy *1595
Pirquet Test reliability.....C-1648
Placenta, premature separation....1643, ab-1663
traumatic partial loosening.....ab-1678
Pneumococcus infections, immunization.ab-1666
Posture and kidney function.....E-1628
Precipitates, posterior or keratic.....1651
Pregnancy and status epilepticus.....ab-1674
acidosis and metabolism in.....ab-1677
hygiene 1644
nephritis of ab-1663
Wassermann reaction in.....ab-1665
Prescription economy, enforcing.....1639
Pseudarthrosis of tibia.....*1615
Puerperal septicemia from Clostridium welchii ab-1663
Purpura hemorrhagica ab-1678
Pyelitis, postoperative, prevention.....ab-1664
calculous, causes hyperthyroidism....ab-1672
Queries and Minor Notes.....**1650**
Reading disability, specific.....C-1649
Rectosigmoid, anterior resection.....ab-1668
Respiratory infections, bacteriology.....ab-1666
"Revitalization" by ovarian grafts.....1643
Rickets, ferment studies in.....ab-1675
prevention and treatment.....ab-1675
Salicylates vs. nitrogen metabolism....ab-1666
Scaphoid Bone, Tarsal, Köhler's disease.*1617
Scarlet Fever, convalescent vs. antitoxic serums in *1604
Schools, Medical, offering summer courses.1653
Sclerosis, multiple, neuralgia with.....ab-1669
Social Medicine and Medical Economics...**1656**
Society Proceedings **1662**
Solutions, hypertonic, vs. brain volume.....E-1630, ab-1672
Spinal Cord, hematomyelia.....ab-1678
Spine, intervertebral foramen tumor....ab-1678
Sputum, highly infectious.....ab-1677
State Board Examinations.....**1655**
Sterility vs. fatness.....ab-1670
pessary for C-1649
Sterilization of needles before immunization.1652
Stomach lesions, partial gastrectomy....ab-1667
Strephosymbolia C-1649
Students, American Dormitory, Paris.....1642
Surgeon, fatal inoculation while operating..1640
Sweat, insensible, and metabolism.....E-1629
Syphilis, bismuth compounds in.....ab-1665
Tapeworm in Massachusetts.....*1607
broad, distribution C-1650
Tetanus bacilli in feces.....ab-1670
Tetraiodophenolphthalein orally, fatality.ab-1670
Thrombophlebitis migrans ab-1670
Thrombosis, coronary, etiology.....ab-1664
sinus, jugular blood cultures in.....*1602
Thyroid therapy in childhood.....E-1630
Tibia, pseudarthrosis *1615
Tongue cancer, radium for.....ab-1673
black, yeast prevents.....ab-1667
Tonics and Sedatives.....**Adv. page 22**
Tonsil, muscular attachments.....*1610
Tonsillectomy, parathyroid dosage in.....1651
Trichiniasis, intradermal reaction in...ab-1666
Tsetse Fly, war on.....1639
Tubercle Bacillus, resistance to putrefaction ab-1672
Tuberculosis cough noninfectious.....ab-1677
B C G immunization.....ab-1677
compulsory treatment in recruits.....1641
in school children.....ab-1678
mortality in Chicago.....ab-1666
pathogenicity of B C G.....ab-1677
pulmonary, fatal hemoptysis in.....ab-1671
pulmonary, vs. asthmatic states.....ab-1676
pulmonary, with bronchial obstruction..C-1648
surgical, heliotherapy in.....ab-1675, ab-1676
treatment, heliotherapy *1595
Wright Tuberculosis Treatment.....E-1631
Tumors, presence of bismuth in.....ab-1676
hydrocyanic acid effect on.....ab-1674
tar, vs. blood vessels.....ab-1676
Typhoid in large cities.....*1624
Ultraviolet Rays therapy.....ab-1676
carbon arc, iron arc, tungsten arc, etc.*1595
mercury arc vs. carbon arc.....1651
Urine phenols in new-born.....ab-1671
protein, origin E-1628
Uterus hemorrhages, classification.....ab-1663
displacement, pessary for.....C-1649
effect of drugs on.....ab-1674
fibromyoma, intraperitoneal hemorrhages in ab-1674
hydatidiform mole ab-1663
Venereal Disease clinic.....ME-1656
Viruses, filtrable, diseases from.....ab-1664
Wassermann Test in pregnancy.....ab-1665
compared with Kahn.....ab-1673
Wright Tuberculosis Treatment.....E-1631
Yeast prevents blacktongue.....ab-1667
Yellow Fever, experimental.....ab-1664

BURDICK CORPORATION
Milton, Wisconsin

AIR-COOLED MERCURY ARC LAMPS
(equipped with Voltmeter and Voltage Regulator)
WATER-COOLED MERCURY ARC LAMPS
(equipped with EVER-CLEAR Quartz Windows)
ZOALITES FOR INFRA-RED THERAPY
ELECTRIC LIGHT BATH CABINETS

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 90, NO. 20 CHICAGO, ILLINOIS MAY 19, 1928

HELIOTHERAPY AND ARTIFICIAL LIGHT

TREATMENT OF TUBERCULOUS CONDITIONS AND PARTICULARLY LARYNGEAL TUBERCULOSIS *

OVE STRANDBERG, M.D.

Medical Superintendent, Ear, Nose and Throat Department, Finsen Medical Light Institute

COPENHAGEN, DENMARK

The various points dealt with in this paper are intended mainly as a public answer to some of the questions put most frequently to me by foreign colleagues who have visited me at the Finsen Medical Light Institute in Copenhagen.

These questions may be thus summarized:

1. What sort of light is best, and what is the most efficient type of lamp?
2. What instruments and plant are necessary, and what is the most practical way of organizing and arranging matters?
3. What ailments may be treated successfully, and what results may be expected if plant and equipment are properly used?

THE BEST SOURCE OF LIGHT

The sun, unquestionably, is the best of all sources of light in places where sunlight is available. Unfortunately, sunlight is not available in very many places on the European continent. The best districts are to be found in the southern Alps, in Switzerland, and in the southern lowlands.

Sunlight, is, of course, available farther north too, but only at seaside places and preferably in localities where there are long stretches of sand. In large towns or their suburbs, sunlight is of little practical use on account of the dusty, smoky quality of the atmosphere, which absorbs the chemical elements of the light. Before deciding to use the sunlight baths anywhere, it is therefore necessary to assure oneself that the sun's rays contain a sufficient quantity of chemically active light, and that the sunlight is of sufficient strength and duration.

Morning and evening sunlight is not as valuable as that at midday. This is because the rays have to travel through a greater thickness of atmosphere in the morning and evening than they do at midday, thus losing a large percentage of their chemical components. The sun may, however, be used for a limited number of midday hours, and during the remainder of the day artificial means may be used; but in the majority of cases only artificial light will be of any practical use.

Among the various sources of light used may be mentioned the carbon arc light, the mercury vapor light, the iron arc light and the tungsten arc light. In deciding which is the best of these, when obliged to use artificial light, either wholly or only partially, one should always use the light that gives a spectrum most resembling that of the sun, or, failing that, which exhibits the greatest number of those rays which typify the therapeutic quality of sunlight.

But does this mean the whole solar spectrum or merely certain definite individual elements of it?

Numberless experimental investigations have been undertaken to solve this problem, and although as yet nothing really definite has been actually proved, everything would seem to point to the probability of Reyn's theory being the correct one. Reyn postulates that our clinical results give us many a useful hint as to which properties in the sun's rays are most useful, and that they completely confirm Finsen's theory that it is largely the chemically active rays that are of importance. Reyn then proceeds to compare various investigations as to the quantity of these various light qualities in different countries, at varying heights, and the degree of absorption in each case.

Briefly, the conclusion drawn is that the sun, which shows a continuous spectrum, exhibits a larger number of all kinds of rays in the highlands than in low-lying districts where the atmosphere absorbs a certain percentage of all kinds of rays but not an equal amount of each kind, the degree of absorption increasing with the ratio of decrease in wave length and being greatest in the case of the shorter waves.

But according to the investigations of Langley and Dorno, the degree of absorption increases with the ratio of density of the atmosphere, getting stronger and stronger as one descends to the level of the sea, and it also increases with the amount of vapor and dust in the atmosphere. If the distribution of energy in the solar spectrum is considered, one finds that there are comparatively few rays with a wave length less than 300 millimicrons and that only at the 313 level does the energy increase very noticeably, being greatest between 400 and 500 millimicrons.

As the absorption of the atmosphere is greatest in the case of the short wave ultraviolet rays, the sun will contain comparatively few ultraviolet rays at the sea level and, compared with sunshine in mountain regions, will exhibit proportionately fewer ultraviolet rays under the 313 millimicron wave length; on the other hand, it will contain comparatively many blue, violet, luminous or actinic, and heat rays. At sea level, therefore, one finds mainly rays with a wave length of more than 313 millimicrons.

From these observations Reyn concludes that as the treatment of surgical tuberculosis gives excellent results by sunlight in mountain regions and at the seaside (some consider that seaside results are even better) while results in low-lying districts are less encouraging,

* From the Finsen Medical Light Institute, Ear, Nose and Throat Department.

and that as in highland districts the sun is rich in all kinds of rays while in low lying places near the sea it contains plenty of heat rays and comparatively plenty of blue and violet rays, being relatively deficient in ultraviolet and especially in short ultraviolet rays, it would appear that it is the longer ultraviolet rays, in conjunction with the violet and blue rays, that are of the most importance, as these are just the rays present in great quantity in sunshine in mountains and near the sea shore, where the water and the white sand reflect and refract them and thus build up the strength of the actinic or chemical light.

In mountain districts in winter time, the sun does not radiate rays of shorter wave length than 313 millimicrons, and some authors maintain that their results are best at this time of the year. Reyn points out that this fully agrees with the fact that all radiant energy under 313 millimicrons is immediately absorbed by the outer epidermis layer while the longer wave ultraviolet as well as the violet and the blue rays possess relatively greater penetrative power.

If the short ultraviolet rays were the most important, the most favorable results should be obtained in the mountains in summer, where the sun is especially rich in all kinds of rays, and further, as the mercury vapor lamp is especially rich in short ultraviolet rays, better results should be obtained with this type of lamp than with natural sunlight. In point of fact, however, the opposite, of course, is the case. It must therefore be concluded that if one is forced to use artificial light instead of sunlight, one must choose a type of lamp which, like the sun, exhibits a continuous spectrum, possesses the greatest number of blue, violet and ultraviolet rays of the greatest possible wavelength and also contains luminous heat rays—the latter being considered by Bernhard, Rollier, Sonne and others to increase the energy of the actinic rays, Sonne having proved that they possess the property of destroying the typhus and diphtheria toxins that are circulating in the blood.

As regards the various types of artificial light available, only the carbon arc light, the mercury vapor light, the iron arc light and the tungsten arc light contain any appreciable amount of chemically active light, and there is also the great difference between them that only the carbon arc light, like the sun, exhibits a continuous spectrum, all the others showing a line spectrum

In saying that the solar spectrum is a continuous spectrum I mean that it contains all kinds of rays, from infra-red to ultraviolet with a wavelength of about 290 millimicrons, while a line spectrum is a spectrum containing luminous lines broken by dark intervals.

In order to be able to use a light source with a line spectrum with the same clinical results as with a light source giving a continuous spectrum, the lamp would have to be especially rich in inner ultraviolet, and violet and blue lines, and there would have to be heavy lines in the red part of the spectrum, but none of these three light sources with a line spectrum fulfil these conditions. The mercury vapor lamp shows a few heavy lines at the inner ultraviolet and violet end but is primarily effective in the short wave ultraviolet rays, while the iron arc and the tungsten lamp are even more unfavorable than the mercury vapor lamp.

The carbon arc light is therefore the light that most nearly approaches sunlight, for not only does it exhibit a continuous spectrum, rich in blue, violet, ultraviolet and especially long wave ultraviolet rays, but it is also highly efficient in both infra-red and luminous red rays.

Having due regard to these reasons, I conclude that the best substitute for sunlight must therefore be the carbon arc light. This is further borne out by our clinical results. The mercury vapor lamp is also usable, but the same good results must not be expected as with the carbon arc lamp, and the period of treatment will also take longer, especially in the case of tuberculosis in adults.

THE BEST TYPES OF LAMPS

In most forms of tuberculosis it is advisable to use the carbon arc lamp, but unfortunately this does not mean that any carbon arc lamp will do, under the supposition that all carbon arc light gives a continuous spectrum like that of the sun. This is certainly true up to a certain point, but only to that point.

It must be remembered that it is also necessary that the distribution of energy in each individual unit of the spectrum be as intensive as possible. A continuous spectrum might well be quite narrow and thus contain but little of the several light components, but in that case it would lack much of its power and healing virtue —and this is just the drawback with a number of the carbon arc lamps named. I can hardly emphasize the importance of this point too strongly, for I have repeatedly heard colleagues expressing their surprise at inferior or entire absence of results, in spite of their having used carbon lamps, for all the world as if the mere fact of using a carbon arc lamp were sufficient. But it is not.

Years of investigations and experiment at the Finsen Medical Light Institute in Copenhagen have proved that if the lamps are to be thoroughly efficient they must be constructed specially for the object in view.

The lamp that has now become the Finsen institute standard model and is considered the best for this kind of work is so constructed that it can carry an extremely powerful current; i. e., the thinner the carbon electrodes used (up to a certain point), the intenser the white light and hence the richer in chemically active rays the light radiated from the crater of the upper or positive electrode, as has been proved by Absalon Larsen.

At the Finsen Medical Light Institute we employ two types of lamp, a large one and a smaller size, but as they are uniform in principle I shall describe them as one.

The lamp consists of a disk with the adjusting mechanism on the upper side and the sockets of the carbon electrodes on the under side. These sockets are adjusted by sliding them up or down the two perpendicular guides. The correct distance between the electrodes is kept adjusted by means of the regulating mechanism, which is so arranged that the light from the crater will remain at exactly the same spot and will therefore shine on the same area all the time. The latter point may also be assisted by choosing such complementary sizes of carbons as will burn at the same speed.

The big lamp consumes 75 amperes and requires 55 volts. The reason a current consumption of 75 amperes has been chosen is that it is difficult to manufacture lamps that burn uniformly and quietly at higher currents. The 55 voltage has been chosen for both lamps because it has been proved by experiment that this voltage excites a powerful chemically active light and a quietly burning lamp.

Higher or lower voltages only produce inferior light and an unreliable lamp. It is well to keep this point in mind, although I shall return to it later on.

The little lamp is constructed on similar lines, the voltage being exactly the same, i. e., 55 volts, but it consumes only 20 amperes, this figure being chosen merely for reasons of economy.

I must point out that if the voltage supplied is 220, this current must be transformed down to 70 volts if the large lamps are to be used, and a fixed resistance must be inserted between the lamps and the electrical supply.

If the small lamps are to be used—and I suppose they are the most commonly used type at present—they cannot be connected to a wall socket but must be connected directly to the local power plant with a series resistance between the lamps and the local supply; in this case the three lamps necessary for a single light bath must be connected up in series. The power used must always be direct current. Alternating current cannot be used, because this sort of current will not form a crater in the upper carbon electrode and, as said before, it is essentially the light radiated from this crater that is used. If the local power plant supplies alternating current, it must be transformed into direct current. In both lamps the thickest carbon must always be inserted in the upper socket and must be connected to the positive pole, for it is in the upper and thicker carbon that the necessary crater is formed. If the positive pole is connected to the lower electrode the crater will be formed in that, and all the light will be thrown up toward the ceiling and not down on the patient. I once saw a light bath installation connected in this way—the results obtained were not exactly encouraging.

The length and thickness of the electrodes (carbons) must be an exact size; in the case of the 75 ampere lamps the positive carbon must be 300 by 31 mm. and the negative 300 by 22 mm. Both anode and cathode must be cored carbons. In the case of the 20 ampere lamps the anode or upper carbon must consist of cored carbon and measure 300 by 12 mm. The lower carbon or cathode must, however, consist of solid carbon and measure 300 by 8 mm.

The carbons we use at the Finsen institute are specially selected in order to insure as quiet burning of the lamps as possible without the carbons sooting up or getting red hot, and are of such high resistance that they will stand a very high electrical load. Clean ashless carbon gives the steadiest light but will not stand a very high charge. Our experience shows that Siemens A carbon is about the best. These two types of lamp may be used, either with two 75 ampere lamps in the so-called big light bath or with three 20 ampere lamps in the little light bath—but I shall return to this point later. These lamps are the standard model of the Finsen light institute.

Another series of other carbon arc lamps are offered for sale as being suitable for use in universal light baths, but in point of fact they are not very suitable, as the following discussion of their defects will show.

The majority of them are arranged to connect straight to a wall plug to use the local electrical power supply, or they employ arc light and not crater light—the latter being the kind we use and (for reasons already given) the light we credit with our good results.

The principle in the Aureol and Heliol lamps is arc light and not crater light, and both use very high voltages. This, as I mentioned before, is an unhappy characteristic.

The Jupiter lamp uses 10 amperes and 40 volts. The Mebolith lamp uses 5.5 amperes and 45 volts. The disadvantage common to the two is that the strength of the current employed is too low to give sufficient energy.

The makers of the so-called Ultrasonne advertise that it may be used for universal as well as for local treatment. A number of fittings are supplied with this lamp for use in auricular, nasal, laryngeal and oral diseases. The lamp employs either 110 or 220 volts and 6 amperes. This alone is a sufficient reason to debar it from use in universal treatment. Another point about this lamp and about the Ultralux lamp is that the carbons employed in both lamps are too thick. In judging lamps, one must always remember that the mere fact that a lamp gives a continuous spectrum is no criterion whatever. It is not merely necessary that each quality of ray be represented, but each must be present in the largest possible quantity, and it is extremely important to have as many blue, violet and long wave ultraviolet rays as possible, in addition to the luminous heat rays.

The best known of the mercury vapor lamps now in use is called the artificial alpine sun, but ought more correctly be called Bach's mercury vapor lamp, the name artificial alpine sun being quite misleading. In order to be called by that name, the lamp would have to have a continuous spectrum, whereas it has—like all mercury vapor lamps—an unmistakable line spectrum, not to mention the fact that all the long wave rays are entirely absent. Hagemann has tried to counterbalance this drawback by adding a circular row of carbon filament electric bulbs.

Another mercury vapor lamp is the one mentioned by Jesionek. His idea is to install a number of these lamps in the same room and to allow the patients to move about so as to be irradiated from all sides. Jesionek has also tried to make up for the deficiency of long wave rays by installing a number of powerful metal filament lamps. This arrangement, as well as the electric bulbs around Bach's lamp, certainly increases the visible spectrum, but only to a very limited degree.

Of these two types of lamp, the Jesionek lamp must be considered the best, if only on account of the brilliance of its light. In using these lamps it is highly necessary to keep an exact account of the hours of usage. After from 600 to 800 hours the lamps will continue to burn, it is true, but the amount of chemical light will have become so attenuated that the lamps are then quite useless. It will also be necessary to make photometric tests now and then, for these lamps may often lose their chemical light-giving qualities far earlier.

Finally, I must mention Picard's irradiation cabinet, a specially constructed chamber in which the patient, in addition to a light bath, is also given an ionized air bath.

The Bang iron arc lamp, mentioned before, consumes 3.5 amperes, and the tungsten arc lamp requires 5 amperes and from 60 to 100 volts. For reasons already given, these lamps are not suitable for treatment of tuberculous conditions, and they cannot be used to replace carbon arc light.

In addition to the lamps already mentioned there are quite a number of metal filament lamps for sale, but with them also the action is not chemical but solely one of warmth, as the total amount of chemically active light that they radiate is quite negligible. Consequently, it is not necessary to mention any of them here.

ESTABLISHMENT OF A LIGHT BATH DEPARTMENT

Naturally, the first thing to be considered in regard to the question of the plant and instruments necessary for a light bath department and their arrangement in a practical manner is approximately how many patients one expects to treat, and the kind and the degree of their illnesses. But in order to make a start, especially in cases of tuberculosis, at least three small carbon arc lamps (i. e., a so-called little light bath) and one mercury vapor lamp will be required. If one has many ambulatory patients to treat every day, or patients who are able to sit up, one ought to have two large carbon arc lamps; i. e., a big light bath also.

Before I describe a carbon arc light bath and the procedure to be employed, I must briefly mention some necessary points about the rooms where the baths—whether carbon arc or mercury vapor—are to be taken. First of all, one ought never to have more than one set of lamps in the same room. With the large carbon lamps the size of the room should be 5.4 by 7 meters, and with the small carbon lamps and mercury lamps it ought to be 5.3 by 2.5 meters. The height of both rooms should be about 4 meters. The floor should be covered with a composition bath room flooring, such as Terrazo, which we use, sloping to a drain in one corner, so that it can be swabbed after every bath given. If there is only linoleum on the floor, a zinc tray must be placed under the carbon lamps in order to catch any possible sparks. The wall must be painted a dark color, so that neither patients nor staff may be inconvenienced in any way by heat rays reflected from a light wall.

In every room used for universal light bath treatment injurious gases are given off, both by carbon and by mercury lamps. The carbon lamp also develops great heat. Both gases and heat must be drawn off by efficient ventilation. This is best effected by having the windows (which open falling amply inward) as near the ceiling as possible. If the doors do not fit tightly or if there is a space of some few inches under the door, the ventilation will be quite efficient, without the patients' being inconvenienced by a draft.

The lower windows, however, must not stand open during treatment, for the patients will then be in a draft and, besides this, the lamps will burn unsteadily. If ventilation as described cannot be arranged, an electric fan must be fixed in a ventilator in the ceiling.

In the big light bath there are two 75 ampere carbon arc lamps. They must hang side by side, so that the distance between the two arcs is 60 cm. Care must be taken that the lamps are hung up in such a way that they cannot swing round their central axis or move away from the positions allotted them, as the light may then be given a wrong direction. The perpendicular guides must hang parallel to each other and in the same plane in order that they do not throw their shadows on the patients, and they must slide up and down their guide rods at least 1 meter to enable the right distance from the patient to be adjusted.

This distance between the crater of the anodes and the floor (at the Finsen institute) is about 1 meter, but this must be altered to suit the height of the chairs in use. The height between the seats of the chairs and the floor is 40 cm. The distance of the crater must be adjusted according to the height and the position of the patient. The patients in this bath are sitting on chairs. It would be very extravagant to let them lie down, as in that case only two patients could be treated at a time. The chairs are placed so that the patients can sit astraddle with their arms resting on the tops of the chairbacks while the light illuminates their backs. Only eight patients should be treated at a time in this bath, since, if more are allowed to participate, those sitting farthest from the lamps will get very little light. The reason for using two lamps is that the patients will get some of the light from both, the rays from the two lamps crossing; but it is obvious that the light will not reach all the patients if some are sitting too far away. The patient sitting midway between the two lamps will always get the most light. It is therefore a good idea to let them change places now and then in order to get an equal amount of light on each. The patients ought also to turn the various parts of their body to the light, to distribute its effect more evenly. The patients must of course be entirely naked. To protect the eyes and facial skin, which is sometimes very sensitive, the patients have on a peak of stiff paper to shade their eyes from the light.

The light is used most economically by making the patients sit as close together and as near to the light as possible, but the great heat fixes a limit to their proximity. As the intensity of the light decreases with the square of the distance, it is obvious that the patients must sit as near to the light as possible, and another point is that not only must the patients' eyes and face be protected from the inconvenience of close proximity but the nursing staff too must be protected. The latter will therefore wear large size dark colored sun-goggles.

The lamps are entirely without a globe or glass cover of any kind. This is because a globe or shade would reabsorb the chemical light; i. e., just exactly those elements of the light which we wish to use.

The little light bath is used in places where there are too few patients to justify using the big lamps, or when patients have to lie down—often very necessary with patients suffering from tuberculosis. As far as eye shades and goggles for the patients and the staff are concerned, the same rules apply here as with the big lamps.

The little light bath consists of three 20 ampere lamps hanging side by side in a row at a distance of 55 cm. between the crater of each. In this bath the patients will lie down on a couch about 30 to 35 cm. from the anodal crater. What I said before about the way the big lamps are hung up applies also to the little lamps, but I will repeat that it is of extreme importance that the lamps cannot revolve round their central axis or move from the fixed positions assigned them. It is evident that these small lamps cannot radiate as much chemical light as the big ones, but on the other hand they do not develop so much heat, so the patients can lie much nearer to them than to the big lamps. This is of great importance for, as I said before, the intensity of the light decreases with the square of the distance.

The light, slanting downward from the crater, forms a cone of brilliant light, and as this is the light we wish to use, care must be taken that the patient is placed within this cone of light. It is easy to see where the outer edge of the light begins and ends. All that is necessary is to move the hand up and down in and out of the place where one would expect the crater light to be. Naturally, the hand will be illuminated all the time; but as it enters the crater light zone the illumination will suddenly become much stronger, showing that the hand is now within the cone of light. The patient must be placed within this cone, so that the curvature or central part of the back is easily within the circle of light.

Before describing the noteworthy points about the proper usage and maintenance of the lamps, I should like to emphasize that naturally patients who are very ill and small children must never be left alone in a carbon arc light bath room, as it is just possible, especially in cases in which the lamps have not been properly attended to, that sparks may be thrown off, which might set fire to the sheets. The same reason precludes the patients from reading or taking papers or other inflammable material into the room with them. Happily, such an occurrence is not very likely; but even though no accident of this description has ever happened either at the Finsen institute or at my own private nursing home, I still contend that prevention is better than cure. It is also obvious that patients must be forbidden to touch the lamps or carbons, which are of course intensely hot. For this reason, and also to prevent their falling off their couch, small children must always be strapped securely in place.

As I mentioned before, the lamps must burn steadily and quietly. The carbons must not be allowed to glow or soot up. In order to insure these necessary factors, a couple of hints will perhaps not be out of place. The carbons must be kept in an absolutely dry and clean place, and must not be fitted when damp or greasy with oil. They must be screwed tightly into their sockets, so that there is a firm and lasting contact If, however, the screw is screwed home too tightly the carbon will be crushed, and if too loosely, the screw or its guide will probably melt, thus necessitating a new socket being mounted. Between the lower carbon and the bottom of its socket there must be an interval of about 1 cm. in order not to break the carbon if a lateral adjustment should be necessary. When the lamps are burning, the point of the cathode must be exactly opposite the crater of the anode and the carbons must be in exact alinement with each other; otherwise the crater will not retain a true and level contour. All adjusting mechanism must work easily and respond readily. If it does not do so, the dust and dirt that have accumulated must be removed with a pair of bellows; but under no circumstances must the mechanism be smeared with oil or grease, as these lubricants will dry up and eventually clog up the mechanism even worse than before. At least once a year the lamps must be taken apart and thoroughly cleaned.

CONDITIONS SUSCEPTIBLE OF TREATMENT BY ARTIFICIAL LIGHT

We now ome to the question of which illnesses, and more especially which tuberculous conditions, are most amenable to light treatment. Although I have already touched on the question of treatment in my remarks about the arrangement of lamps and patients, I think we might well return to this point and consider diseases and treatment under one heading. And, further, I must repeat that my remarks will deal mainly only with universal treatment and will not include local light treatment of such illnesses as lupus vulgaris, though I might mention in passing that since the introduction of Finsen's universal light treatment the percentage of cures in lupus vulgaris has risen considerably, the skin diseases being almost always treated nowadays by light, both concentrated locally as well as unconcentrated universally. It is possible to effect a clinical cure in lupus vulgaris as well as in tuberculosis of the larynx by means of universal light treatment alone, as I have proved in lupus and tuberculosis of the mucous membrane. But it must be added parenthetically that the period of treatment may be shortened considerably by employing local treatment simultaneously with the universal treatment.

I have demonstrated this by treating patients with lupus vulgaris of the inferior turbinated bone solely with universal carbon arc light baths, no other treatment being employed. After all the clinical symptoms in the inferior turbinated bones had disappeared they were removed, and our histologic expert, Dr. Heiberg, was able to show by means of a series of sections that there was not a sign of tuberculosis left. But as I have already remarked, it is clear that recovery will be much accelerated if proper local treatment is given simultaneously with the universal treatment.

PROCEDURES IN LIGHT THERAPY

In order to explain the best manner of procedure in light therapeutics when used in conjunction with local treatment, I shall describe my method of treating laryngeal tuberculosis, adding at the same time some general remarks as to dosage.

The right duration of each bath, and especially of the initial bath, depends mainly on the patient's general condition. In the absence of lung complications, adults can usually begin at once with from twenty-five to thirty minutes' irradiation over the whole body with the carbon arc baths. Small children may be given about ten minutes' irradiation with carbon arc lamps; but with mercury vapor lamps both adults and small children should be irradiated only five minutes, especially if the burner is a new one. If it has been in use some time, a longer period may be allowed, as the mercury vapor burner appears to lose a certain proportion of energy with usage. But in view of the acute and painful erythema caused by overdosage, one must always remember, when mounting a new burner, to return to a five minute period again even if the patient is already pigmented.

This does not, however, apply to the carbon arc lamp. Once the patient is pigmented by this treatment, there is no danger in beginning with a full two and one-half hour period of irradiation, even after an interval of as much as a fortnight. In carbon arc baths, adult patients increase the period by from ten to fifteen minutes every alternate day until they reach the full period of two and one-half hours. On account of lack of room, we usually give the patients a bath only every other day, but with women it is sometimes necessary to give a bath every day on account of the length of menstrual interruptions. After every light bath the patients are given a tepid shower bath. While the initial dose in universal light baths depends mainly on the general condition of the patient, no light bath being given or commenced during intercurrent periods of fever, the speed of increasing the dosage will depend not only on the patient's general condition but also on the degree of skin irritation. If one begins with twenty minutes or more, acute irritation will be produced, varying from red blush to blisters and necrosis of the epidermal cells. If the reaction is violent, it is evident that one must proceed more slowly or postpone the next light bath for a few days.

In giving the specified doses, it is usual that a more or less intense red color will be produced which, if the baths are discontinued, will pass off after a few days, but which will reappear after all the initial baths until the skin has become fully pigmented. When that condition has been reached, the baths will be entirely pleasurable. The acute skin irritation may sometimes

be somewhat unpleasant on account of the itching sensation, but also because the mere contact of wearing apparel or bed clothes may often be most uncomfortable.

If in the beginning some of the patients are especially sensitive, treatment may be discontinued a few days and then resumed with smaller doses, either by placing the patients a little farther from the lamp or by giving them shorter periods of irradiation. During treatment in rare cases, a patient may sometimes exhibit phlyctenas on the cornea of his eye. This need not necessitate discontinuance of treatment. One should merely see that the eyes are properly protected and treat the phlyctenas in the usual way. There are, I believe, a number of dosimeters for sale to fix the duration of light baths in various cases. I have never used them and have never felt the need of them.

Contraindications to the use of light baths are: severe forms of heart disease, arteriosclerosis, and nephritis when not of tuberculous origin. Treatment by universal carbon arc light baths is suitable in all cases of laryngeal tuberculosis, and I treat all forms of this condition, except perhaps the less serious cases of infiltrates in the interarytenoidean region with good immune biologic reaction in the patient, as in such cases I do not consider light treatment necessary, the condition usually quickly disappearing after other treatment.

The majority of cases treated are thus more especially of the severe and very severe exudative type, which, as will be seen later, are always complicated by pulmonary tuberculosis in various stages. On account of the lack of adequate room in my department, by far the greater number are treated as ambulatory cases.

No attention is paid to slight rises of temperature, such as 100 or 101 F. rectally, but the patient is informed that though the temperature possibly may rise during or after a light bath, it should not give him any cause for anxiety. It is necessary to emphasize this point, as many of the patients have been at one or more sanatoriums before and have seen there the importance given to the presence of fever, a slight rise in temperature generally meaning bed immediately. Should the temperature rise to 102 or more after a light bath, treatment may be discontinued for a couple of days, recommencing again with very short periods of irradiation, often of only five minutes, and increasing by five minutes every second or fourth days. As a rule, the temperature does not rise very high, but as I control every patient's temperature very carefully, it is not difficult to decide what length of irradiation the patient is able to bear without the temperature becoming noticeably higher. The patient will then be kept at this period for two or three weeks, after which we try to increase the period gradually. It is only very rarely that I have been unable by this means to harden the patient to carbon arc baths; but when I have been unsuccessful the reason is usually the heat, so the patient is then moved to the mercury vapor bath. After a week or two he is moved back to the carbon arc bath, which then seldom excites any reaction.

Patients who are seriously ill must begin with the little carbon arc bath, in a reclining position during the bath, which must not exceed more than ten minutes the first time. The length of the baths will be increased slowly, often only by five minutes every second or fourth day.

When the patients are better, they are moved over to the big lamps. If they are not very seriously affected on arrival there is nothing to prevent their beginning treatment immediately in the big light bath, with say ten or fifteen minutes' irradiation. Patients can, of course, be treated entirely in the little light baths, but if one has a large number of patients who are able to sit up, it is, as I said before, much more economical to use the big light baths. If the patients are able to stand it, the duration of each light bath is slowly increased until the maximum of two and one-half hours is reached, and in serious tuberculous involvement of the larynx I never allow light baths more than every other day.

In mercury vapor baths the patients begin, as I said before, with five minutes and increase by five minute stages every alternate day; but it must be emphasized how necessary it is to reduce the duration of irradiation when the burner is replaced by a new one, as it is just these patients that are most liable to the painful erythema that arises from overirradiation with mercury vapor lamps.

In the beginning the patients will often lose weight, but after some weeks this will cease and they will usually then put on all they have lost and more too.

It has been contended by several authors, who have, however, either not used light treatment themselves or have not used it properly, that in giving light baths to patients with pulmonary tuberculosis there is a great risk of exciting hemoptysis. As I shall show later, my own results do not exactly support this contention. Naturally patients with pulmonary phthisis may expectorate blood now and then while under light bath treatment, but these patients would do the same even if they were not undergoing light treatment. Should a patient have an attack of hemoptysis while taking light baths, the treatment may be discontinued for a few days; but I have never had a case in which it was necessary to miss more than a week.

As mentioned before, laryngeal tuberculosis may be cured solely by light baths, but the cure will proceed much faster if the light baths are combined with suitable local treatment, the exact moment to commence this local treatment being by no means unimportant; in fact, so important is the local treatment, which always consists of galvanocaustics or excisions, that if it is commenced at an unfavorable time the whole course of the case may be disturbed and the cure delayed a very long time. It is a good general rule that it is better to commence the local treatment a little late than too early.

What time is the most favorable for beginning the local treatment?

In tuberculosis of the larynx one should always begin the treatment with universal carbon arc baths and continue with this treatment alone until the patient's general condition is much improved; i. e., until he has been putting on weight for some time, and his temperature is normal—in short, when the immune biologic reaction is greatly altered. For it would appear that if an intralaryngeal operation is performed on a patient with a poor immune biologic reaction, a poor result will always be obtained, the contrary being the case when the reaction is good. I believe that the whole object of light baths is to alter the immune biologic reaction, and that in a large number of cases it is completely successful in doing so. Many authors, among others Blumenfeld and Schroeder, are agreed that an intralaryngeal operation can be performed only on patients with good immune biologic reactions, and Blumenfeld comes to the same conclusion as I do with regard to the ability of light treatment to alter this reaction.

How long must these patients be treated by light baths? Naturally, the light bath treatment must be

continued as long as there is an objective sign of tuberculosis in the larynx, but this treatment ought to be continued a month or six weeks after all signs have disappeared. Treatment may therefore last a very long time, especially when one deals, as I do, with the serious cases; as a rule, however, it will last from six to sixteen months.

I always enjoin absolute silence on the patients, but I know, of course, that they never maintain it.

This describes briefly the methods employed in tuberculosis of the larynx, and it may well be employed in many ways in other conditions complicated with pulmonary phthisis. In patients without this complication, the treatment may safely begin with longer baths and the scale of increase may be accelerated, but it is as well, whenever possible, to supplement the universal light baths with suitable local treatment. In tuberculosis of the middle ear, for instance, I always remove all visible caries from the temporal bone, and in lupus vulgaris in the nose, mouth and throat I supplement the light baths with electrocoagulation and surgical treatment.

Universal sun bath treatment of tuberculosis and especially of tuberculosis of the larynx is, as far as I know, employed only to a limited degree and without any noticeably successful results. Why it is so, I fail to see. Possibly the reason is that those who have ventured have tried to treat laryngeal tuberculosis in the same way as surgical tuberculosis. But this cannot be done. Patients with pulmonary or laryngeal phthisis cannot stand anything like the big doses that other patients can. I only wish that some one with time and opportunity at his disposal would try treating these illnesses with small doses, commencing first partially and later on universally, and only gradually increasing the exposures and by very small steps, up to a maximum exposure of I suppose little more than three-fourths or possibly a full hour daily or only every other day. If the patients could lie in the sun properly protected from wind and drafts, I do not see why even better results should not be obtained than with artificial light.

OTHER METHODS OF TREATMENT

A number of authors, more especially Stillmann and Sorgo, have tried treating laryngeal tuberculosis by reflecting sunlight into the larynx, but I do not think much of this method, first, because only very small quantities of light can be directed into the larynx in this way; secondly, because it would be difficult if not impossible to light up the actually affected spots, and, thirdly, because the mirrors would reabsorb too great a quantity of the chemical components of the little light that did succeed in getting into the throat. I think we may therefore safely disperse with this method; but it would seem that there are quite a number of physicians who appear to find it difficult to believe that universal light treatment can work a cure in the larynx. In the course of time, a number of suggestions for irradiating the larynx locally have been put forward; indeed, the most complicated projectors have been specially constructed for this use. Cemach uses Kromayer's mercury vapor lamp, which he has mounted on a special stand and fitted with a spatula to hold the patient's tongue, and directs the light into the throat. Apart from the effort which this method would demand of patients who were already suffering enough, the amount of light that reached the throat would be very small, and as the distance from the light source to the spot to be treated is considerable, it is obvious that the beneficial effect of the light on the throat cannot be very marked. It is difficult for me to understand how this method can give good results.

Another method is that of Wessely. He first anesthetizes the patients thoroughly with cocaine. He then either lays them in Killian's suspension or inserts Seiffert's autoscope and directs the light through it into the larynx. Here also, as in Cemach's method, the quantity of the light that reaches the larynx is small and each exposure can be only of short duration. Wessely is of the opinion that this is compensated for by using special carbon impregnated with a metallic salt, but it would appear that all that is gained by doing this is that the continuous carbon arc spectrum is changed to a line spectrum like that of the mercury vapor lamp, which I would suggest only decreases the prospect of any beneficial effect.

Wessely also uses another method. An automatic larynx mirror is placed inside the patient's mouth with an ordinary mirror fitted outside, so that the patient is able to see that the light really does strike the larynx. The light source is the same as before.

Wessely contends that he obtains good results by these methods so, of course, they must be good; they cannot, however, be due to the light being projected locally but to the fact that the light which gets into the fauces works as a part of a universal light bath. But in that case it is far easier for patient and physician to employ the methods that I have described, for these are far less trying to the patient and do not require the repeated use of suspension laryngoscopy with attendant local anesthetization, two factors which I should be extremely reluctant about using, particularly patients as seriously ill as those I treat. Local light treatment will, I am sure, give rise to much speculation, but the universal light bath, I am convinced, is the method that with the least inconvenience to the patient will yield the best results for some time to come.

RESULTS OF TREATMENT AT THE FINSEN INSTITUTE

Employing these various methods of procedure with the carbon light arc bath at the Finsen institute in Copenhagen on 435 patients with rhinolaryngologic lupus vulgaris, I have effected cures in 86.6 per cent, and some of these patients have not had any relapses during a period of observation lasting ten years.

The figures for aural tuberculosis are as follows: In forty-one cases in which operation and light treatment were carried out, only nine ears are not dry. Of these, one patient died of pulmonary tuberculosis long after the operation without the retro-auricular lesion having healed; in all other cases the retro-auricular lesion has healed, and in twenty-three cases I have been successful in avoiding the radical operation. Ten of these patients have been under observation from three to eight years, the remainder for a shorter period.

As regards tuberculosis of the larynx, I will comment on my results a little more in detail. My material comprises 203 patients all suffering from severe, in some cases very severe, forms of laryngeal tuberculosis. All these patients had pulmonary tuberculosis also. During the last few years my department in the Finsen light institute has employed a full-time specialist in lung tuberculosis to take care of the patients' lungs, Dr. Ostenfeld. From the time he arrived he has controlled all the patients, but as he was not appointed until long after I had commenced treatment, the material controlled by him comprised only sixty patients until one and one-half years ago; consequently, in

dealing with our results in pulmonary tuberculosis I shall include only these sixty. Out of these, only sixteen were in the first stage of Turban, seventeen in the second and twenty-five in the third, while two had pleurisy.

Of the sixteen in the first stage, the lung condition improved in seven and remained stationary in nine, while none of them exhibited propagation. Of the seventeen in the second stage six improved, in seven the disease remained stationary, and in four there was propagation. Of the twenty-five in the third stage the lung condition improved in five, in thirteen it was stationary, and in seven there was propagation.

In the face of these figures, which have been collected by a distinguished specialist in lung tuberculosis, I am at a loss to understand the fear still entertained by some lung specialists of using universal light baths, especially when it is remembered that these cases comprise almost entirely poor outpatients who have not enjoyed any of the comforts or benefits of a stay at a sanatorium, and who in many cases while undergoing treatment have been obliged to carry on with their work in order to earn the bare necessities of life. I cannot but imagine that these results might be greatly bettered at a sanatorium where the patients have every comfort and convenience at their disposal. But I will take this opportunity of establishing once and for all that in addition to the light treatment it is naturally necessary to employ every other means at one's disposal, as this will greatly accelerate the cure.

In laryngeal tuberculosis 203 patients were treated, all of whom had had lung tuberculosis also.

Of these 203 patients, eleven who came to the institute before August, 1926, are still under treatment, and ten of them have improved. Seventy-nine have discontinued treatment, some because they felt strong enough to work, others because they were so far on the road to recovery that they could continue treatment at a sanatorium, and others for reasons unknown.

Periods of Observation of One Hundred and Thirteen Patients Cured of Tuberculosis of the Larynx

Months:	0–3	3–6	6–12	12–18	18–24	
	33	8	17	8	11	
Years:	2–3	3–4	4–5	5–6	6–7	7–8
	17	6	6	3	1	3

Recurrence : 7

Still under treatment... 3: all improved
Lapsed..... 1: improved
Recurred..... 3: (one without recurrence three years)

Of these seventy-nine lapsed cases, improvement had occurred in forty-five, thirteen were unchanged, and nine were worse; in twelve in which death occurred, four had been improved, one unchanged and seven aggravated. By unchanged and worse is meant objectively unchanged or worse; many, however, were subjectively better because they no longer had pain and difficulty in swallowing. It must be emphasized that one of the great advantages of the light treatment is that these phenomena quickly disappear entirely, a fact which other authors, e. g., Blegvad, have observed.

If we now deduct the eleven patients who are still under treatment, we have 192 left, of whom 151 are being treated as outpatients and forty-one as inpatients. Before treatment 184 were hoarse and twenty-two aphonious. After treatment 102 had recovered their voice, and forty were improved, while in forty-one the condition remained unchanged. Sixty-four patients had pain or difficulty in swallowing. These symptoms disappeared entirely in forty-four cases, were improved in ten, and in ten remained unchanged. One hundred and thirty exhibited tubercle bacilli in the sputum before treatment; twenty-eight became abacillary, while three exhibited bacilli in the sputum after treatment and not before. One hundred and eight had only intrinsic, eighty-two had extrinsic also, and two had only extrinsic tuberculosis of the larynx. The larynx was cured in 113 patients, or 55.6 per cent.

Of the 113 patients who were cured, seventy-seven had pure intrinsic disturbances, thirty-four both intrinsic and extrinsic, and two only extrinsic. From this it may be concluded that in light treatment Sir St. Clair Thomsen's postulate regarding to the greater danger in extrinsic tuberculosis is correct; namely, that the percentage of cures in patients with this form of tuberculosis is perceptibly lower than in patients with only intrinsic involvement. Before treatment, 110 of the cured patients were hoarse (nine aphonic). After treatment the voice became clear in ninety cases, and in five merely improved. Twenty-five had pain and difficulty in swallowing, which disappeared in all cases.

Strandboulevarden.

DIFFERENTIAL JUGULAR BLOOD CULTURES IN SINUS THROMBOSIS*

REUBEN OTTENBERG, M.D.
NEW YORK

Since my preliminary publication[1] on differential jugular blood cultures, I have used the procedure in eleven more cases, making a total of fifteen cases so treated. The practical value of the procedure is beginning to be more clearly defined. Perhaps of more importance than its diagnostic use is the new light which the method throws on the mechanism of blood stream infection in sinus thrombosis.

It will be remembered that the principle of the procedure consists in aspirating blood simultaneously from the two internal jugular veins, carefully plating it out in petri dishes of nutrient agar, and comparing the number of colonies of bacteria per cubic centimeter of blood obtained from the two sides.[2] In a case of otitic infection, a very marked difference in the number of micro-organisms in the two sides is regarded as evidence of thrombus on one lateral sinus or the other.

The results to date may be briefly summarized as follows: Of the fifteen cases, the cultures were done in fourteen because sinus thrombosis was suspected, and in one case, an instance of bacterial endocarditis, the culture was done purely to control the technic.

Eight cases were proved at operation to be sinus thrombosis; of these, one gave sterile blood in both jugular veins (case 6); two gave small and approximately equal numbers of colonies from both veins (cases 5 and 8), and five showed very pronounced differences in the numbers on the two sides. Of the seven remaining cases, one, believed to be thrombosis of the lateral and cavernous sinuses, showed a very marked difference in number of colonies between the two sides but the disease could not be determined by

* From the Laboratories of Mount Sinai Hospital.

1. Ottenberg, Reuben: Diagnosis of Sinus Thrombosis, Arch. Otolaryng. **5**: 43 (Jan.) 1927; Laryngoscope **37**: 424 (June) 1927.
2. The technic is fully described in the preliminary papers.

operation or at autopsy (case 9). Another (case 10), clinically believed to be a cavernous sinus thrombosis and meningitis complicating a mastoid infection, showed almost equal numbers of bacteria on the two sides. In this case also autopsy could not be obtained. Four cases in which sinus thrombosis was suspected but in which negative blood cultures were obtained from both veins were subsequently proved not to be sinus thrombosis (two by operation and two by spontaneous recovery).[3]

The important observation was that of the five cases of sinus thrombosis which showed a great disproportion between the numbers of bacteria on the two sides, four cases showed the larger number of bacteria in the jugular vein of the normal side, and the smaller number in that of the diseased side (cases 1, 2, 3 and 4). In these cases, the thrombus was found to be an occluding one. In the one case in which the large number was found on the diseased side, the thrombus was mural and nonocclusive (case 7).

These rather unexpected facts enable one to form a picture of what happens when a mastoid infection spreads to the lateral sinus. At first the phlebitis results in the laying down of a superficial layer of thrombus within the vein, and the blood current rushing past this carries bacteria from the thrombus down in the internal jugular vein of the same side. If bacteria are being given off rapidly, the number of bacteria per cubic centimeter of blood will be greater in this vein than in the opposite jugular vein or in other peripheral veins (as in case 7) since, of course, as is known, bacteria are quickly killed off in the blood stream or filtered out in the organs. If bacteria are being given off slowly (and killed rapidly), one will expect only small numbers on both sides and no great difference between the two sides (case 8). If bacteria are being killed slowly in the blood stream, as happens when the body is overwhelmed with infection, the numbers in the two veins and the periphery will be large and approximately equal (possibly case 10; but the diagnosis in this case is unverified).

On the other hand, when the thrombus becomes large enough to occlude the vessel, the venous blood from the corresponding half of the cranial cavity can no longer get out through the lateral sinus and jugular vein of the diseased side; the current is reversed, and drainage finds its way via the torcular herophili and other venous anastomoses into the lateral sinus and jugular vein of the healthy side, as shown in the accompanying diagram. In four such cases (1, 2, 3 and 4) in which there was a decided difference in the number of bacteria on the two sides, the larger number was found in the vein of the healthy side. Naturally here also, if the bacteria are being given off but slowly by the thrombus, one cannot expect a difference between the two sides (case 5).

Whether the reversal of blood current is the full explanation of this finding or whether in a larger series of cases this finding will remain invariable cannot yet be stated. Experience has shown that the spread of a thrombus downward almost never goes farther than the jugular bulb, while the spread upward in the lateral sinus has no definite limit. Probably the lower end of the thrombus is the one which forms first and therefore becomes sterilized first.[4] In one such case (case 4) in which a practically simultaneous culture was taken from a peripheral (arm) vein the number of bacteria was approximately the same there as in the jugular vein of the diseased side, so that it can be said definitely that no bacteria were being contributed from the jugular end of the thrombus.

The method of differential jugular blood cultures is undoubtedly of value in cases of blood stream infection accompanying otitis, in which it is uncertain whether a sinus thrombosis or some other possible complication, such as endocarditis, pneumonia or osteomyelitis, is causing the bacteremia.[5] In such cases, the finding of a marked difference in the numbers of bacteria between the two jugular veins is decisive for the existence of a sinus thrombosis. The finding of equal numbers or of no bacteria does not of necessity exclude sinus thrombosis.

To what extent the finding of a difference between the two sides will help determine on which side the thrombus lies cannot yet be stated. In our small experience, four out of five cases showed the larger number of bacteria in the vein of the side opposite the infected thrombus. Only a much larger experience will determine whether the statistical preponderance of this finding will be sufficient for it to be considered in determining on which side to operate.

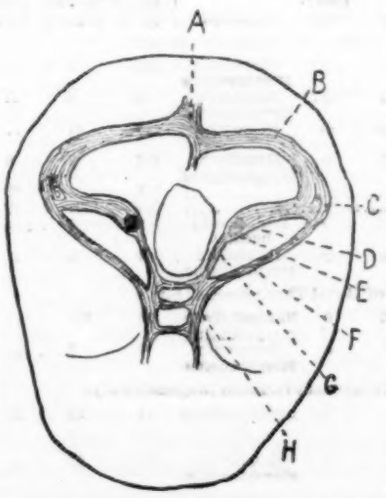


Diagram of sinuses at base of skull to explain the paradoxical finding of the larger number of bacteria in the jugular vein of the healthy side. With an occlusive thrombus in one jugular bulb, the bacteria from the infected clot in the lateral sinus find their way through the venous anastomoses into the general circulation by way of the internal jugular vein of the opposite side: *A*, torcular herophili; *B*, lateral sinus, horizontal part; *C*, knee of lateral sinus; *D*, lateral sinus, sigmoid part; *E*, jugular bulb; *F*, superior petrosal sinus; *G*, inferior petrosal sinus; *H*, cavernous sinus.

In addition to this the method is of value, even after one jugular vein has been ligated, for determining whether the operation has sufficiently blocked off the infected sinus. This is well illustrated in case 4. An exclusively left sided otitis was followed by typical septic symptoms. Two weeks after the onset, blood cultures showed 122 colonies per cubic centimeter in the right internal jugular blood; seven per cubic centimeter in the left, and six per cubic centimeter in the arm blood. At operation, a thrombus was seen filling the bulbar end of the left sinus, from which location there was no bleeding. This was followed up to the knee of the sinus from which there was a free flow of blood, presumably from the superior petrosal sinus, as indicated in the accompanying diagram. At this point, the operation had to be stopped. The patient's symptoms continuing, three days later cultures were made from the right jugular vein only (since the left had been tied off and resected), and from an arm vein.

3. This, of course, is not conclusive proof. On rare occasions, sinus thrombosis probably does get well spontaneously.

4. Libman, who first definitely recommended blood cultures for the diagnosis of sinus thrombosis (Tr. Am. Otol. Soc. **10**: 315, 1906), points out in explanation of certain cases in which the blood culture is negative that "below the infected clot may be an obliterating noninfected clot, or an infected clot may so close the vessel that few or no bacteria can escape" (Tr. Ninth International Otologic Congress, Boston, 1912, p. 127).

5. Cases of uncomplicated meningitis have not been studied; it is conceivable, though improbable, that these might show a difference in the two sides; but even if there were such a difference it would not impair the practical value of the method, since meningitis is easily recognized by other methods.

They now showed in the right jugular, 225, and in the arm, twenty-two colonies per cubic centimeter. The following day these had increased to 356 and seventy-eight colonies per cubic centimeter, respectively, in the right jugular and arm veins. It was concluded, therefore, that the thrombus must be spreading up what remained of the left lateral sinus toward the torcular herophili. The patient was again operated on and this was found to be the case, the thrombus actually reaching nearly to the torcular. It was this experience, particularly, which led Dr. Maybaum to devise a new method of operative attack, which he will describe in a forthcoming paper.

CONCLUSIONS

1. Differential jugular blood cultures consist of simultaneous cultures from both internal jugular veins (and preferably also from an arm vein).

Summary of Fifteen Cases of Differential Jugular Blood Cultures

No.	Condition Found	Side	Occlusion	Organism	Colonies per Cubic Centimeter of Blood: Right Internal Jugular	Left Internal Jugular	Arm Vein
	A. Cases of Occlusive Sinus Thrombosis						
1	Sinus thrombosis	Left	+	Hemolytic streptococcus	278	9	..
2	Sinus thrombosis	Left	+?	Hemolytic streptococcus	25	8	..
3	Sinus thrombosis	Right	+	Hemolytic streptococcus	15	67	..
4	Sinus thrombosis	Left	+	Hemolytic streptococcus	122	7	6
	3 days after operation				225	..	22
	4 days after operation				356	..	78
5	Sinus thrombosis	Right	+	Diphtheroid bacillus	2	1	..
6	Sinus thrombosis	Left	+	Hemolytic streptococcus	0	0	..
	B. Cases of Mural Thrombosis of Sinus						
7	Sinus thrombosis	Left	0	Nonhemolytic streptococcus	16	142	..
8	Sinus thrombosis	Left	0	Hemolytic streptococcus	1	1	..
	C. Cavernous Thrombosis (Clinical Diagnosis Only)						
9	Cavernous thrombosis following otitis	?	?	Pneumococcus III	14	70	24
10	Cavernous thrombosis, meningitis, osteomyelitis of femur	?	?	Hemolytic streptococcus	129	98	..
	D. Mastoiditis—No Sinus Thrombosis						
11	Sinus explored, normal	—	—	—	0	0	..
12	Sinus explored, normal	—	—	—	0	0	..
13	Mastoid operation, recovery	—	—	—	0	0	..
14	Recovery; no operation	—	—	—	0	0	0
	E. Other Conditions						
15	Bacterial endocarditis	—	—	Streptococcus viridans	14	10	16

2. The procedure is simple and safe, as indicated by the results in the fifteen cases here briefly reported.

3. In cases of thrombosis of the lateral sinus, the blood from one jugular vein usually shows a far larger number of colonies than that from the other jugular vein or from the arm vein.

4. In the more common instance in which the thrombus completely occludes the sinus, the larger number of bacteria are found not in the blood from the diseased side but in that from the normal side.

5. In the less frequent instance of a mural, nonocclusive thrombus, the larger number of bacteria are found on the diseased side.

6. The cases cited show that the bacteria are killed in or removed from the circulating blood with enormous rapidity.

1112 Park Avenue.

CONVALESCENT AND ANTITOXIC SERUMS IN SCARLET FEVER

A COMPARISON OF RESULTS IN ONE THOUSAND FIVE HUNDRED AND EIGHT CASES *

J. E. GORDON, PH.D., M.D.
B. B. BERNBAUM, M.D.
AND
L. C. SHEFFIELD, M.D.
DETROIT

Serum from scarlet fever convalescents has been used in the treatment of scarlet fever for many years and is established as a valuable therapeutic measure. The development of a specific scarlet fever streptococcus antitoxin serum cannot be considered in any way as replacing this acknowledged reliable method. However, if scarlet fever streptococcus antitoxin is found to give comparable results, it offers the advantage of greater practicability and the opportunity for more general use, as convalescent serum is difficult to obtain other than in contagious disease hospitals.

Numerous reports of favorable results with scarlet fever streptococcus antitoxin have appeared during the past three years. They have in general dealt with small numbers of cases. Definite evaluation would seem to rest on more extended observations. We have used scarlet fever streptococcus antitoxin in the treatment of 1,021 cases of scarlet fever. A comparison will be made with a smaller group (120 cases) in which convalescent serum was given, and with control cases in which the usual symptomatic treatment was given. One of us [1] has reported a study of 684 cases of scarlet fever, in 317 of which scarlet fever streptococcus antitoxin was administered. On the basis of these observations, it was concluded that scarlet fever streptococcus antitoxin exerted a favorable effect in reducing the severity of the febrile stage of the disease, on the course and duration of the fever, on the extent and duration of the skin lesions, and on the necessary period of isolation. There were fewer complications in patients receiving the antitoxin. The favorable effect on complications was evidenced by a lessened severity and duration, as well as incidence. Cases of suppurative otitis media in patients treated with scarlet fever streptococcus antitoxin, for instance, had an average course of 18.4 days, as compared with a duration of 36.6 days in control cases.

Concurrently with these observations, similar studies were made at this hospital, and these have since been measurably extended. Treatment with scarlet fever streptococcus antitoxin was limited essentially to patients suffering from moderately severe or severe scarlet fever. Practically all had an initial temperature of 102 F. or above. They represent in general the more severe cases of a total scarlet fever population of 7,312, during a period of almost four years. Seasonal influence on the general severity of infection and periodic variation in certain complications would thus seem to be eliminated as important factors in the interpretation of results.

During this time convalescent serum has been used in certain instances. Its use was deemed advisable when the history or a test for hypersusceptibility to horse serum indicated the likely development of a sub-

* From the Herman Kiefer Hospital, Department of Health.

1. Gordon, J. E.: Treatment of Scarlet Fever with Streptococcus Antitoxin, J. A. M. A. **88**: 382 (Feb. 5) 1927.

sequent serum reaction which might conceivably influence the ultimate outcome of the illness. It was employed only for severely ill patients whose condition was considered more or less critical.

The dose of convalescent serum has varied between 30 and 100 cc. One therapeutic dose of scarlet fever streptococcus antitoxin has usually sufficed for the treatment of a given case, although at times this has been repeated once, and in isolated instances up to four times. All serums have been given intramuscularly, except that recently we have at times employed the antitoxin intravenously, mixed with from 100 to 500 cc. of physiologic sodium chloride solution. This has appeared definitely worth while in patients suffering from a marked degree of toxemia with accompanying dehydration. Given slowly and well diluted, there have not been any untoward effects such as we have noted on occasion after the injection intravenously of undiluted serums.

EFFECT OF SCARLET FEVER STREPTOCOCCUS ANTITOXIN ON THE CLINICAL COURSE OF SCARLET FEVER

The manner in which scarlet fever streptococcus antitoxin influences the fever curve during the acute stage of the disease is an important index of the general effect on the clinical course. The fever has been favorably modified. Chart 1 represents a composite temperature curve for 128 cases.

An immediate drop in temperature is not always noted, but there were numerous instances of a decline from 104 or 105 F. to 99 F. within twenty-four hours. Well marked decline in temperature is evidenced during the second twenty-four hours, usually to approximately normal levels. The total febrile period in days was shorter for patients who received antitoxin, as compared with those who did not receive it.

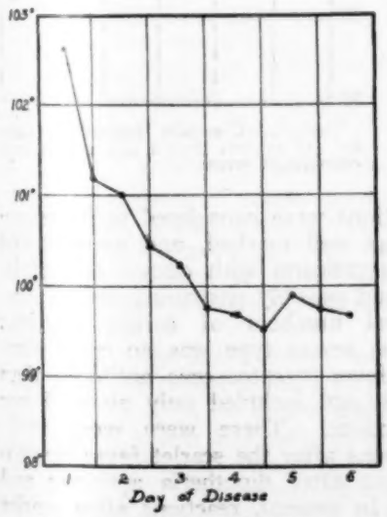


Chart 1.—Composite temperature curve for 128 patients treated with scarlet fever streptococcus antitoxin.

The effect on the eruption is usually striking. The typical punctate rash fades within twenty-four hours and may be absent, with only a subcuticular flush persisting. Corroborative evidence of the milder skin lesion is shown by the type of desquamation, which commences somewhat later in cases treated with scarlet fever streptococcus antitoxin than in control cases, and is usually less marked, sometimes lasting only a few days.

The figures in table 1 represent data on the general clinical course of cases observed during the winter months of 1927.

It is more difficult to analyze the effect of the scarlet fever streptococcus antitoxin on the toxemia of early scarlet fever. Patients in general appear definitely improved the following day and frequently comment voluntarily to that effect. The action in respect to the toxemia appears in many ways analogous to that following inoculation of specific antitoxin in diphtheria.

COMPLICATIONS

The major effect to be demanded of a new treatment for scarlet fever must be an alleviation of the complications of the disease. Aside from the infrequent toxic and septic cases, the febrile period of scarlet fever is not attended with particular danger. Most deaths result from complications, which constitute likewise the major medical problems. Seasonal and annual variations in the incidence and severity of these complications are well recognized. Certain years and certain seasons manifest unusual frequency of mastoid involvement, lymphadenitis, or rhinitis and sinusitis. True evaluation of results must depend on a sufficient number of cases observed over an appreciable period of time. The following results represent a thousand cases, studied within the past three years.

TABLE 1.—*Clinical Course*

Type of Case	Number of Cases	Antitoxin Given: Day of Disease	Antitoxin Given: Day of Rash	Average Duration of Fever, Days	Average Duration of Disease, Days	Prolonged Quarantine for Complications: Number	Prolonged Quarantine for Complications: Per Cent
Severe	22	2.9	1.8	9.2	28.4	8	36
Moderately severe	183	2.5	1.7	8.2	35.9	41	22
Mild	6	2.5	1.3	7.4	29.6	2	33

Coinciding with usual experience, three conditions constituted numerically the important postfebrile complications: cervical lymphadenitis, suppurative otitis media, and rhinitis, the latter usually accompanied by involvement of the accessory sinuses. Nephritis and cardiac complications have been relatively infrequent. With modern dietary management, nephritis has become an uncommon complication of scarlet fever, and indeed its frequency was found to be little influenced by serum treatment. There likewise appears to be little difference as to the incidence of endocarditis and other cardiac complications between cases treated with scarlet fever streptococcus antitoxin and those not so treated. Definite differences appear in the frequency of otitis media, mastoiditis and other pyogenic complications. Among the first 300 patients there was no case of mastoiditis requiring operation, and only seven in the entire series of 1,021 patients. The incidence of discharging ears has been lower than in control cases of equal severity, in general by one half. It is lower than for the total scarlet fever admissions, which include a majority of moderate cases not treated by serum. The frequency of secondary cervical lymphadenitis is definitely less. The rate for rhinitis and sinusitis is appreciably affected by antitoxin therapy but in general not to the extent of some of the other common complications. There are well marked seasonal variations in the incidence of this condition. Doubtless many cases are not direct complications of scarlet fever but are due to secondary infections of the common cold type.

The death rate of 1.6 per cent is satisfactory when one considers that this represents the more severe cases. In a disease such as scarlet fever, which in recent years has been characterized by a low case fatality rate, no great decline can be expected to result from the use of scarlet fever streptococcus antitoxin. However, in 1926, when antitoxin was used for only a small per-

centage of cases, the fatality in the Herman Kiefer Hospital was 2.8 per cent. In 1927, with a policy of serum treatment for all of the severer cases, approximately 40 per cent of total admissions, the death rate was an even 1.0 per cent. The frequency of the several complications, according to the severity of the original infection, is shown in table 2.

TABLE 2.—*Complications of Scarlet Fever with Antitoxin Therapy*

Clinical Type	Number of Cases	Severe Cervical Adenitis, Per Cent	Suppurative Otitis Media, Per Cent	Operative Mastoiditis, Per Cent	Rhinitis and Sinusitis, Per Cent	Nephritis, Per Cent	Cardiac Complications, Per Cent	Arthritis, Per Cent	Serum Reactions, Per Cent	Deaths, Per Cent
Moderate	66	9.0	4.5	0	5.9	0	1.5	3.0	30	0
Moderately severe	670	7.0	4.7	0.6	8.9	1.4	0.9	3.7	34	0.9
Severe	285	18.2	11.5	1.0	10.1	2.1	3.5	7.4	31	3.8
Total 1021		10.2	6.6	.68	9.1	1.5	1.6	4.7	33	1.6

SERUM REACTIONS

The admitted advantage of convalescent serum over antitoxic horse serum lies in the absence of serum reactions with the former, as it is an homologous serum. The frequency of such reactions is the chief objection voiced against the use of scarlet fever streptococcus antitoxin. With this relatively new product, one may forget that serum reactions are common to all forms of foreign serum therapy. Serum reactions are frequent after scarlet fever serum. In Detroit they are more frequent now than a year ago.

In an attempt to get more exact information than is afforded by a gross percentage incidence, we have made a particular effort to obtain exact histories of previous sensitization to horse serum. For comparative purposes the same procedure was followed in cases of diphtheria, and a study was made of serum reactions following diphtheria antitoxin. As a result of a recent active campaign in Detroit for toxin-antitoxin prophylaxis against diphtheria, it became evident that a considerable proportion of the patients admitted were hypersensitive to horse serum. This was true in both scarlet fever and diphtheria, but was less marked in the latter, because in most instances clinical diphtheria followed toxin-antitoxin inoculations only when the interval was too short for immunity to have been established.

TABLE 3.—*Serum Reactions*

Serum	Number of Cases	Percentage Incidence Serum Reactions	Average Day of Onset	Average Duration, Days	Previous Sensitization: Toxin Antitoxin	Previous Sensitization: Serum	Previous Sensitization: Total	Previous Sensitization: Per Cent	Nonsensitized Individuals: Number	Nonsensitized Individuals: Per Cent Reactions	Sensitized Individuals: Number	Sensitized Individuals: Per Cent Reactions
Scarlet fever antitoxin..	212	43.2	7.2	2.5	73	14	87	41	125	20.0	87	77
Diphtheria antitoxin..	193	30.6	8.1	2.1	32	10	42	21	154	20.1	42	69

Gross figures for percentage incidence showed serum reactions to be considerably more frequent following scarlet fever streptococcus antitoxin than diphtheria antitoxin, 43 per cent against 30 per cent. However, twice as many of the patients with scarlet fever were sensitive to horse serum. When serum reactions were analyzed on the basis of previous sensitization, it was observed that for patients with a negative history serum reactions occurred with almost identical frequency for both scarlet fever and diphtheria antitoxins, essentially 20 per cent. This is shown in table 3.

Those persons known to be sensitized developed serum reactions much more frequently. About 70 per cent of sensitized persons had serum reactions of varying intensity. For sensitized persons, reactions were slightly more common after scarlet fever antitoxin than after diphtheria antitoxin. The greater incidence of serum reactions following streptococcus serum would appear, in our experience, to depend on the fact that in the scarlet fever group the percentage of sensitized persons was much greater, and that for those persons the reactions were slightly more frequent after scarlet fever antitoxin than after diphtheria antitoxin. Judging from this group of cases, it would seem that the nonsensitized person is no more likely to have a serum reaction after one serum than after another.

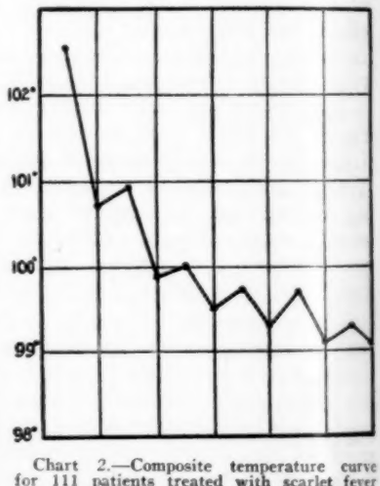


Chart 2.—Composite temperature curve for 111 patients treated with scarlet fever convalescent serum.

We have divided serum reactions into three groups. Mild reactions are those characterized by urticaria alone. Moderately severe reactions include urticaria with some lymphadenopathy, joint pains and a moderate rise in temperature. Reactions were considered to be severe when the fever was well marked, and accompanied by relatively severe urticaria with edema, arthralgia, lymphadenopathy, and possibly gastro-intestinal symptoms. When equal numbers of serum reactions were considered, the severe type was no more common after scarlet fever streptococcus antitoxin than diphtheria antitoxin, and included only about 6 per cent of total reactions. There were more moderately severe reactions after the scarlet fever streptococcus antitoxin than after diphtheria antitoxin and fewer mild types. In general, reactions after scarlet fever antitoxin may be said to be somewhat more severe, but this is by no means as marked as a year ago when commercial serums were not properly aged. The severity of serum reactions should decrease as such aged products become more generally available.

CONVALESCENT SERUM

We have limited convalescent serum to the treatment of severe scarlet fever. The results, in accord with previous experience, have been uniformly satisfactory. The temperature and general condition of the patient are favorably affected. Chart 2 represents a composite temperature curve from 111 cases so treated. When

compared with the curve in chart 1, which represents essentially the same number of cases treated with antitoxin, there is little variation. In judging the incidence of complications with the two types of serum, the difference in the severity of infection must be kept in mind. In table 4 we have attempted to show the frequency of the more important complications in a group of carefully studied control cases, in relation to the number after serum treatment. The comparison is scarcely a fair one, in that the majority of the control cases were of moderate severity while the cases treated with antitoxin were chiefly of the severe or moderately severe grade.

TABLE 4.—*Comparative Incidence of Complications in One Thousand Five Hundred and Eight Cases*

Complication	Control Cases (Total, 367; Mod., 242; Mod. Severe, 101; Severe, 24)	Cases Treated with Streptococcus Antitoxin (Total, 1,021; Mod., 66; Mod. Severe, 670; Severe, 285)	Cases Treated with Convalescent Serum (Severe Scarlet Fever, 120 Cases)	Cases Treated with Antitoxin (Severe Scarlet Fever, 285 Cases)
Cervical adenitis	28	10.2	31	18.2
Suppurative otitis media	12	6.6	19	11.5
Rhinitis and sinusitis	8	9.1	20	10.1
Operative mastolditis	0	0.68	7	1.0
Nephritis	4	1.5	3	2.1
Cardiac	3	1.6	3	3.5
Arthritis	8	4.7	11	7.4
Serum reactions	X	33.0	0	31
Deaths	1.9	1.6	4.4	3.8

In order to effect a fair comparison between patients treated with convalescent serum, all severely ill, and those in whom scarlet fever streptococcus antitoxin was used, we have separated the severe cases of the latter group and placed them in column 4 of the table. Complications and case fatality rate within this group may be logically compared with that for patients receiving convalescent serum. The results are in close agreement; if anything, they are favorable to the antitoxin.

SUMMARY AND CONCLUSIONS

In 1,508 cases of scarlet fever of different degrees of severity, scarlet fever streptococcus antitoxin was used in the treatment of 1,021 who showed in general moderately severe or severe infections. A smaller group, 120, all severely ill, received convalescent scarlet fever serum.

Scarlet fever streptococcus antitoxin exerts a favorable effect in reducing the severity of the febrile stage of the disease, on the course and duration of the fever and on the extent and duration of the skin lesions.

Complications are less frequent in patients receiving scarlet fever streptococcus antitoxin. Judged on the basis of the case fatality rate and the percentage incidence of complications, there is no essential difference between cases of severe scarlet fever treated with scarlet fever streptococcus antitoxin and with convalescent serum.

The absence of serum reactions after convalescent serum therapy makes it the more desirable. Reactions after scarlet fever streptococcus antitoxin depend largely on previous sensitization to horse serum and should not detract from its general use.

Toxin-antitoxin mixtures, which include minimal amounts of horse serum, sensitize a majority of persons to subsequent injections of horse serums.

Hamilton Boulevard and Blaine Avenue.

DIPHYLLOBOTHRIUM LATUM IN MASSACHUSETTS

A REPORT OF TWO INDIGENOUS CASES *

EDWARD G. McGAVRAN, A.B.
AND
MAHIDOL SONGKLA, C.P.H.
BOSTON

A number of cases of infection with the broad or fish tapeworm, *Diphyllobothrium latum*, occurring in patients of Boston hospitals have come lately to the attention of the Department of Comparative Pathology of the Harvard Medical School. As all infections were in adults of foreign birth who had lived for several years in Russia or one of the Scandinavian countries before coming to the United States, the infections were not considered of particular interest, although the frequency with which they occurred aroused our suspicions. Very recently, however, we have found at the Children's Hospital, Boston, two cases of unquestionable indigenous infections with this parasite. Apparently these are the first reported cases of native infection with *D. latum* in this state, and the first native cases reported outside the immediate Great Lakes District.

REPORT OF CASES

CASE 1.—D. A., a boy, aged 3 years 2 months, of native Russian Jewish parentage, began to pass "white strips" about five months before admission which were identified by the family physician as "tapeworms." The child was treated by this physician, but he continued to pass worms and his mother thought that he had not been as well since treatment. He became apathetic, dull and listless, and had poor appetite. The child was brought to the Children's Hospital for examination and treatment. At the medical outpatient department a diagnosis of tapeworm was made from the presence of segments found in the stool, and a specimen of the stool was sent to the Department of Comparative Pathology of the Harvard Medical School, where the diagnosis of *Diphyllobothrium latum* was made by Dr. D. L. Augustine on the finding of numerous typical eggs in a simple smear examination. The eggs had been missed in the ward examination because the salt flotation method was used. This method gives an excellent concentration and a very clear preparation for examination for all nonoperculate helminth eggs, but as operculate eggs burst and do not float in concentrated salt solution, this method is of no value in the detection of *D. latum*.

Further questioning elicited the fact that the patient was very fond of fish and had been caught stealing and eating bits of raw fish while his mother prepared a meal. He also ate canned salmon and sardines.

Physical examination was essentially negative.

Laboratory analyses showed a normal urine; hemoglobin, from 55 to 65 per cent; red blood cells, 4,500,000 to 5,250,000; white blood cells, from 6,600 to 8,200, and eosinophils, 1-8 per cent.

The stool did not show any segments of *D. latum*, but numerous ova were present.

Treatment consisted of oil of chenopodium, 7 minims (0.4 cc.) on a piece of sugar, followed in one-half hour by 1½ tablespoons of castor oil. No bowel movement resulted. The next day, 2 ounces of magnesium sulphate was given, but still no movement occurred. In the evening, 10 grains (0.65 Gm.) of compound powder of jalap resulted in a movement.

A worm was not passed, and the patient was discharged to return again for treatment in three or four weeks.

CASE 2.—M. G., a girl, aged 4 years 2 months, was born in Greater Boston and had lived in Chelsea, Mass., all her life. The father was born in Russia, the mother in Boston; both were of Jewish parentage. Nov. 23, 1927, three weeks before

* From the Department of Comparative Pathology, Medical School of Harvard University.

admission, the patient passed a 20-foot long yellowish white, ribbon-like worm. No head was found. There were no symptoms at all, and the patient was well all the time. She was brought to the Medical Outpatient Department of the Children's Hospital and the worm was diagnosed as *Diphyllobothrium latum,* but the specimen unfortunately was not preserved. On the next visit, eggs of the same organism and segments were found and were identified as *D. latum* by Dr. G. M. Guest, which was later confirmed by Dr. D. L. Augustine. Further history revealed that the family had fish twice a week, usually fried and occasionally as fish balls. The mother had never noticed any parasites or anything unusual in the fish that she had bought. She obtained her fish from local markets in Chelsea. They ate silver fish, white fish, cod and flounders, but no foreign preserved fish; occasionally pickled herring was eaten raw with vinegar. They did not eat fish eggs. The mother did not remember that the patient had her meals anywhere except at home.

She had noticed that the patient was in the habit of picking up and putting into her mouth bits of raw hamburger steak while she cooked the family meal. She had not observed the child picking up any raw fish but would not exclude the possibility.

Physical examination showed that the child was very well developed and well nourished and entirely normal.

Laboratory analyses showed a normal urine; hemoglobin, 80 per cent; red blood cells, 6,000,000; white blood cells, 9,850; eosinophils, 1 per cent. Eggs were present in large numbers in the stools but segments were not found.

Treatment consisted of oil of chenopodium, 7 minims (0.4 cc.) on sugar, followed by 3 ounces (85 Gm.) of magnesium sulphate in one-half hour. No bowel movement resulted. The dose was repeated in the evening, and an enema was given the next morning. No worms were passed, but eggs were found in the stool specimen as well as in that passed the next day.

The patient was discharged to rest and to return again for further treatment.

Reported Cases of Diphyllobothrium Latum Among Native Born Americans

Case	Author	Reference	Sex*	Age	Parentage	Residence
1	Nickerson...	J. A. M. A. **46**: 711 (March 10) 1906	♂	2	Finnish	Minnesota
2	Nickerson...	Science, **33**, 1911; J. A. M. A. **74**: 457 (Feb. 14) 1920	♀	?	?	Minnesota
3	Warthin....	Pub. Health Michigan, **7**: 1920	♀	5	?	Michigan
4	Riley.....	J. A. M. A. **73**: 1186 (Oct. 18) 1919	♂	8	?	Minnesota
5	Riley.....	Ibid.	♀	Child	Indian	Minnesota
6	Calvin.....	J. A. M. A. **78**: 84 (Jan. 14) 1922	♀	7	Jewish	Illinois
7	Calvin.....	Ibid.	♂	3	Jewish	Illinois
8	Wallace and Grant	J. A. M. A. **78**: 1050 (April 8) 1922	♀	25	German	Indiana
9	Lyon.....	J. A. M. A. **86**: 264 (Jan. 23) 1926	♂	4	Jewish	Indiana
10	Levy and Pierson	J. A. M. A. **87**: 848 (Sept. 11) 1926	♀	4	Jewish	Michigan
11†	Becker.....	Illinois M. J. **30**: 416 (Dec.) 1916	♂	11	Jewish	Illinois

* In this column, ♂ indicates male; ♀, female.
† This patient was born in Odessa, Russia, and brought to the United States when an infant in arms. It therefore seems that this might be considered a native infection.

COMMENT

It is interesting to note in relation to both these cases that the families maintained that they always cooked their fish for a long time, boiling it in deep fat or frying for at least an hour or more. On further questioning, however, a perfect, definite history of occasional stealing and eating of raw fish or meat by both children was obtained. Both families were reported as being fond of certain "white fish" which, along with other varieties, were always purchased from near-by fish markets.

Inquiries made at these fish markets showed that the chief wholesale supply of fresh water fish comes from the Great Lakes region and the Ohio river. Therefore, the fresh-water fish apparently responsible are either white fish, *Coregonus clupeaformis;* lake herrings, *Leucichthys;* carp suckers, *Carpoides thompsoni;* suckers, *Catastomus commersoni;* the common pike, *Esox lucius,* and the yellow perch, *Perca flavescens,* all of which are shipped in large quantities out of the Great Lakes region to eastern markets. Some fresh-water fish from Maine are also sold in Boston markets and may be responsible for carrying the infection. Salmon, which pass a portion of their life in fresh water, might also be involved, but we do not have any evidence against our salt water fish in this connection. Investigations on the source of this infection are now in progress in this laboratory. Because the sewage of so many towns empties directly into the Great Lakes or other bodies of fresh water, the fish of these regions have every opportunity of becoming infected and must be considered as the probable source of infection.

In view of the wide market distribution of these fish, it is probable that the distribution and incidence of *Diphyllobothrium latum* in the United States is far greater than is now generally believed.

At present there are eleven known cases of native infections with *D. latum* in the United States. These cases are listed in the accompanying table. It is of interest to note that in all the cases (except case 8) in which the age is recorded, the infection occurred in children not over 11 years. In five cases the children were of Jewish parentage.

O-IODOXYBENZOIC ACID IN THE TREATMENT OF INFECTIOUS ARTHRITIS

REPORT OF ONE HUNDRED AND TWO CASES*

HARRY C. STEIN, M.D.
AND
NORMAN TAUBE, M.B. (TOR.)
NEW YORK

Young and Youmans of the University of Michigan, working for the past three years on o-iodoxybenzoic acid, used it intravenously in the treatment of arthritis, and recently [1] have reported the effect of the drug in forty-three cases. They used it in cases of gonorrheal, acute and chronic, hypertrophic and atrophic types of arthritis. Some of the patients were hopeless cripples in whom all other forms of therapy had failed. In their hands this drug gave striking results: 56 per cent were markedly improved, 23 per cent were moderately improved, 14 per cent were slightly improved and 7 per cent did not show any improvement. These results in conditions which baffle all known forms of treatment led us to a thorough trial and study of the drug in 102 consecutive cases.

The drug, according to Millard Smith,[2] has three main actions: (1) analgesia, (2) relief of muscle spasm, and (3) reduction of swelling. It is asserted by Smith that the analgesia comes on ten minutes after injection and lasts for from twenty-four to forty-eight hours, and the patient may be completely relieved of all pain. Muscle spasm is relieved in from six to twelve hours. Smith cites two cases: A man with acute

* From the Hospital for Joint Diseases.
1. Young, A. G., and Youmans, J. B.: The Use of O-Iodoxybenzoic Acid in the Treatment of Infectious Arthritis, J. A. M. A. **87**: 746 (Sept. 4) 1926.
2. Smith, Millard: Boston M. & S. J. **196**: 305-310 (Feb. 24) 1927.

arthritis, who had been unable to extend his knee completely for one month, was able to extend his knee fully within three hours after intravenous injection; another patient had a similar and striking result. Although the study of our series of cases began long before Smith published his report, we followed a similar plan: viz., noting the effect of the drug on pain, swelling and joint motion, and making observations according to these three reactions.

Since Meyer and his co-workers in 1892 first described o-iodoxybenzoic acid and its precursors, o-iodobenzoic acid and o-iodosobenzoic acid, much work has been done on the nature and action of this drug. Lowenhart and Grove studied the effect of this drug on the blood and found that it produced a mild polymorphonuclear leukocytosis. Arkin discovered that this drug had a high germicidal action against the staphylococci, and Hektoen found that it raised the concentration of antibodies. Arkin also showed that it caused a stimulation of phagocytosis of streptococci and staphylococci by human leukocytes, and that it stimulated the production of hemolysis and agglutinin in rabbits.

A detailed discussion of the pharmacologic action of the drug is not necessary here, since Young and Youmans give a complete bibliography of the studies made by various men. It is sufficient to say that o-iodoxybenzoic acid has a close structural similarity to salicylic acid and that in o-iodoxybenzoic acid the hydroxyl group of salicylic acid has been replaced by

the $I\begin{matrix}O\\O\end{matrix}$ group.

We began our investigation with two definite aims in view, viz.: to determine (1) the therapeutic value of the drug in arthritis without the aid of other forms of therapy such as rest in bed or physical therapy, and (2) the effects of the administration of the drug to ambulatory patients coming to our outdoor clinic. Of the series of 102 patients, two with acute rheumatic fever were treated by rest in bed plus the administration of the drug. All the others were ambulatory.

TECHNIC OF ADMINISTRATION

We administered the drug intravenously in all the cases. One hundred cubic centimeters of a fresh 1 per cent solution was injected into the vein of each arm alternately every three days and the solution was allowed to run in by gravity. We used amiodoxyl benzoate-Abbott. Vials containing 1 Gm. of the drug were diluted in 100 cc. of sterile distilled water. The administration never took less than twenty minutes and usually between thirty and sixty minutes. One hundred patients were treated at our outpatient department. They came to the clinic, received the injection, and were kept on a stretcher for from two to four hours after each administration. They were then allowed to go home and were advised to stay in bed until the next morning. Since nearly all these patients had received some other form of therapy before without results, other forms of treatment were entirely suspended while these injections were being given. Most of them had had suspected foci of infection, such as infected tonsils, teeth, sinuses and hemorrhoids, removed at some previous date, and in one case chronic appendicitis had been suspected and the appendix removed. Six injections constituted a course, but most of the patients received more than six injections.

REACTION TO THE DRUG

In our series we found a very severe reaction to the drug in eighty-two cases. In the other twenty the reaction was very mild. In none of the cases was there thrombosis of the vein. In nine cases some of the solution got into the soft tissues, and the patient complained of a red, painful and swollen arm which lasted from three to four days and then cleared up completely. In these cases gentle massage and alcohol compresses to the affected area gave great relief. After about 50 cc. of the injection had been given, the patient experienced a burning sensation in the nose, throat and mouth, tightness in the chest and head, lacrimation, and an erythematous flush of the face and neck. Three patients vomited after the injection; seven had a tingling sensation and numbness in the fingers; eleven had severe palpitation of the heart, and most of them had severe anxiety and fear of impending danger. These severe symptoms lasted from five minutes to half an hour; in nine cases the headache persisted for more than a day, and four patients complained of general pruritus for several days. Toward the end of the reaction the patient was left in a condition of profuse perspiration and exhaustion; seven had a severe chill after the injection, and in two there was a rise in temperature that persisted for three days.

TABLE 1.—*Classification of Arthritis*

Type of Arthritis	Duration	Age, Years	No. of Cases
Acute rheumatic fever	1 to 2 weeks	21 to 40	2
Arthralgia	6 mo. to 2 yr.	20 to 48	14
Gonorrheal arthritis	7 wk. to 29 mo.	34 to 43	2
Chronic atrophic and hypertrophic arthritis	9 mo. to 7 yr.	29 to 71	70
Strümpel-Marie type	1 yr. to 3 yr.	18 to 61	4
Subacute rheumatoid arthritis	3 mo. to 6 mo.	16 to 44	10
Total			102

CLASSIFICATION OF ARTHRITIS

Nearly all types of arthritis were included in this series of cases. We treated two cases of arthritis following acute rheumatic fever; fourteen cases of arthralgia; two cases of gonorrheal arthritis; seventy cases of chronic atrophic and hypertrophic arthritis involving the large and small joints, and four cases of chronic arthritis involving the spine as well as other joints. Ten cases of less than six months' duration were classified as subacute rheumatoid arthritis, and cases of vague joint pains without clinical manifestations of joint involvement as arthralgia, of which type we had fourteen.

TABLE 2.—*Results of Treatment*

Types of Arthritis	No. of Cases	No. of Injections	Relief of Pain	Relief of Swelling	Increase in Motion	Time Followed	No. of Cases
Acute rheumatic fever.	2	2-3	0	0	0	2-10 days	2
Arthralgia	14	6-20	9	0	0	2-3 mo.	10
Gonorrheal arthritis	2	6-18	0	0	0	2 mo.	2
Chronic atrophic and hypertrophic arthritis	70	20-30	22	0	0	2-3 mo.	59
Strümpel-Marie type	4	20-30	0	0	0	2 wk.	3
Subacute rheumatoid arthritis	10	6-18	0	0	0	2 wk.	6

RESULTS OF TREATMENT

The improvement was estimated very carefully. Motion of the joints was measured before and after each injection. The swelling was measured in centimeters, and relief of pain was estimated and indicated by one, two, three or four plus signs. Our patients were carefully followed for three months. Table 2

shows our results. Any improvement occurring two weeks after administration of the drug we considered not to be due to the drug.

One of the patients with acute rheumatic fever was admitted with pain in the ankles and knees. An injection of a 1 per cent solution of the drug caused an immediate and marked rise of temperature to 104 F., which fell to 101 the next day. Three days later another injection of 100 cc. of 1 per cent of the drug was given, with a similar rise in temperature. Following the third injection, the patient developed a pericarditis and the drug was discontinued. Another patient, a woman, aged 40, who had had two attacks of acute rheumatic fever previous to admission, complained of severe pain in the left wrist and elbow. With rest in bed and salicylates the elbow joint improved, but the pain and swelling in the wrist remained the same. We thought that we would try the drug in this case, but after two injections the patient developed an inflamed and very tender right shoulder. She refused any more injections and left the hospital.

Two patients with gonorrheal arthritis were not affected by the drug at all.

The two cases of acute rheumatic fever were apparently made worse by the drug. The patients in the subacute and chronic hypertrophic and atrophic groups received from twenty to thirty injections without any improvement in the swelling or motion of the joints. Though, in this group, twenty-two reported that there was relief of pain, twelve returned with the same symptoms in less than two weeks. The others relieved for a longer period of time soon returned much disappointed. Our patients were all willing to take the drug, in spite of the severe reaction, and received their treatments regularly. It is remarkable how hopeful and enthusiastic these persons were when they were told that their condition, after months of suffering, might be relieved by this new drug, and how eager they all were to take it in spite of the severe reaction. However, they all returned very much disillusioned. Whether the temporary relief claimed by some was due to their enthusiasm or whether it was due to the action of the drug itself, we cannot say, but one must bear in mind the variability of the pain in the arthritides and how easily it is influenced by the weather, rest, fatigue and what not. The men who reported good results from the use of this drug combined it with such measures as physical therapy, rest in bed and high colonic irrigations. These factors may partially account for their results. The drug is harmless except for the reaction, which is quite severe, but the poor results obtained in our series caused us to abandon its use.

SUMMARY

1. We treated 102 cases of all forms of arthritis with o-iodoxybenzoic acid in the form of a solution of amiodoxyl benzoate-Abbott.

2. One hundred patients were treated at our outpatient department and were allowed to go home from two to four hours after receiving the injection.

3. Two cases of acute rheumatic fever were made worse by the drug.

4. Thirty-one of the 100 patients claimed temporary relief of pain, but almost every one of them returned later with the same or exaggerated symptoms.

5. The drug does not have any effect whatever on swelling or joint changes.

6. The uniformly poor results caused us to discontinue the use of the drug.

1919 Madison Avenue.

THE MUSCULAR ATTACHMENTS OF THE TONSIL

ROBERT H. FOWLER, M.D.
NEW YORK
AND
T. WINGATE TODD, F.R.C.S.
Professor of Anatomy, Western Reserve University School of Medicine
CLEVELAND

In the modern operation of enucleation of the tonsil, the surgeon finds it easy to strip the upper lobe from its bed, but he encounters an obscure mass of muscular tissue attached to the submerged surface of the tonsil at the junction (below its middle) of the upper and lower lobes.

At this stage he imagines, as a rule, that he has encountered the superior constrictor, which is commonly assumed to be an immediate relation. He ceases dissection and arranges the snare around the lower part of the tonsil, trusting to the automatic action of the wire to complete the operation. The result is imperfect enucleation, for the caprice of the snare may leave muscle attached to the tonsil or it may cut through the lower lobe, leaving a portion in situ.

We propose to show that the superior constrictor is not an immediate relation; that it has no direct connection with the tonsil, and that, if this muscular attachment is teased through, complete enucleation of the tonsil can be carried out easily and without injury to the underlying structures.

That which has been mistaken for the superior constrictor is another muscle and is actually attached to the tonsil. This is important, not so much from the academic as from the surgical standpoint, in that this attachment is the one potent obstacle in the true path of tonsil removal. Figure 1 shows this hitherto neglected muscle bundle attached to the groove at the junction of the middle and lower third (which marks off the upper from the lower lobe).

The upper and lower lobes on vertical section turn out to be pockets, as shown in figure 2. The former is larger and shaped like a hood. The latter is smaller, and from it the central mass of lymphoid tissue springs.

The conception of the structure of the tonsil as a double pocket, the lower portion filled with a lymphoid mass, is simple, and when understood gives the surgeon a practical "rule o' thumb" by which he may chart his course through the various stages of the dissection.

EMBRYOLOGY

The best way to establish the fact that the tonsil is truly a lymphoid-lined double pocket is to delve briefly into the embryology as described by Hammar.[1]

There are four lateral pharyngeal pouches apparent in the fifth week. The second of these can be traced even in adult life. Tissues from the third branchial arch grow across this second cleft to form the palatal folds and soft palate, and divide it, leaving an upper and a lower part. The lower part of the second pouch thus left between the soft palate and the tongue remains as a culdesac (forerunner of the pharyngeal tonsil).

RELATION OF TONSILS AND ADENOIDS

The adenoids, or so-called Luschka's tonsil, is that part of the original lymphoid mass left above the palate. The lymphoid mass of the tonsil is the lower part of what originates as the same mass, separated from the adenoids by the growth of the palate backward. The

1. Hammar, J. A.: Studien über der Entwicklung des Vorderdarms, Arch. f. mikr. Anat. 41: 413-429, 1902.

surgeon who removes tonsils and adenoids need not be at a loss to account for their lymphoid tissue being alike. Their similarity in structure is thus accounted for by their identical origin.

Hammar, describing at some length the early development of the structures which go to form the tonsil,

Fig. 1. Muscular belt attached at the groove in the capsule after imperfect enucleation.

states that it is a "cleft-shaped bay in the mucous membrane appearing in the fourth month as the lengthening of the second branchial cleft, below the palate."

"Slowly, out of the bottom of this cavity arises a protrusion" (which will form later the central lymphoid mass). He further says, "The tonsil pocket or bay in the 24 mm. embryo (second month) shows a fold which cuts the tonsil pocket almost in half. This fold is called the plica intratonsillaris" (which will form, later, the hour-glass constriction, or groove, marking the junction of the upper and lower lobes).

From its development as thus outlined, it follows that the tonsil is really a tubular structure, of which both supratonsillar and infratonsillar recesses are parts, isolated from each other by overgrowth of the lining of the posterior wall of the fossa to form the central lymphoid mass, which by its relatively great size and protrusion masks the tubular nature of the second pouch.

Practical Application: By removing the double pocket from which it springs, the surgeon insures the elimination not only of the lymphoid mass, which has been erroneously described as the whole tonsil, but also of the lymphoid lining of the hoodlike structure above it, which is now recognized as forming the so-called upper lobe.

THE PLICAE

In the fully developed tonsil (regarded as a pocket) the edge of the orifice is guarded, except near the posterior pillar, by folds known as plicae.

These folds are in fact the margins of the pouch orifice into the pharynx. Above, the plica semilunaris arching from front to back represents the edge of the tonsillar hood. The plica triangularis, below and in front, as described by Fetterolf, "is fundamentally that portion of the tonsil capsule which extends inward and backward beyond the anterior pillar of the fauces. Its free surface or surfaces are covered with a layer of mucous membrane." [2]

The plicae are more or less invaded by lymphoid tissue. The variability in this respect is of surgical importance. The plica triangularis is especially apt to be involved in its lower part in thick succulent hypertrophy of lymphatic and epithelial tissue.

THE CAPSULE

The word "capsule" is used daily by surgeons to describe the white fibrous sheath that encloses four fifths of the surface of the tonsil after correct removal from the throat. It is a clinical expression not accepted by the anatomist. What is seen covering the tonsil after operation is an excellent imitation of a capsule created as an artefact by the surgeon by stripping away from the lateral wall of the throat a single layer of what is technically described as pharyngeal fascia. The surgeon cares little whether it is capsule or pseudocapsule; but there lies in this distinction more than a definition, for the problem of the surgeon in removing a tonsil consists in separating this pseudocapsule from the rest of the pharyngeal fascia.

The tonsil has been described as a gland covered with a capsule; but, if that were true, we should not expect to find muscle attached to it. On the other hand, if the tonsil is only a lymphoid culdesac in the wall of the throat, and the jacket that the surgeon removes with it actually is part of the sheath of the muscles forming

Fig. 2.—Microscopic appearance of transverse vertical plane.

its bed, the finding of firm muscular attachments on its surface should not cause any surprise.

At all events, we have found in our dissections thin delicate areolar tissue separating the true tonsillar tissue

2. Fetterolf, George: The Anatomy and Relations of the Tonsil in the Hardened Body, with Special Reference to the Proper Conception of the Plica Triangularis: The Principles and Practice of Tonsil Enucleation as Based Thereon, Am. J. M. Sc. **144**: 37, 1912.

from the muscles of its bed. This areolar tissue is so arranged that it can be split into layers between which are spaces of varying depth containing mucous glands, small veins of various size and scattered fat cells.

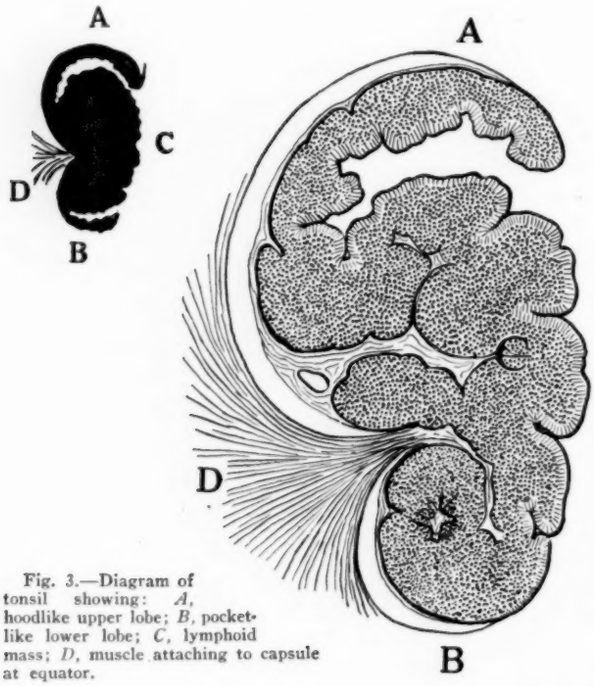


Fig. 3.—Diagram of tonsil showing: *A*, hoodlike upper lobe; *B*, pocketlike lower lobe; *C*, lymphoid mass; *D*, muscle attaching to capsule at equator.

Surgical Significance: The fact that there is a space between these layers accounts for the ease with which injection may be made; the ease with which the upper half of the tonsil may be dissected, and the symptoms observed in the formation of quinsy. (This is an abscess located in the areolar-lined space between the hood, or upper lobe of the tonsil, and the palatopharyngeus, frequently aborted by the formation of a coagulating exudation filling up the interstices of this tissue and resulting in an enclosing barrier which walls off the infected area from surrounding tissues in much the same manner as a local abscess is produced in the peritoneal cavity. This accounts for the many scars and induration of the capsule in this region.)

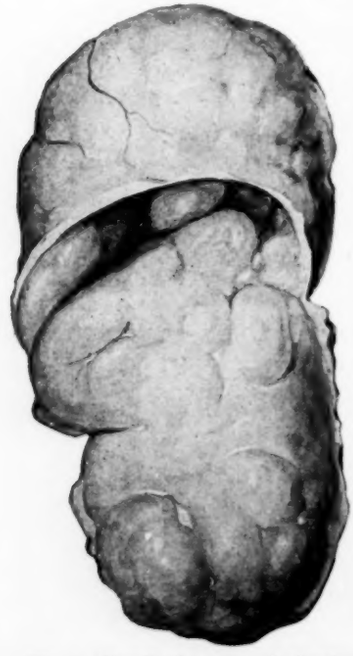


Fig. 4.—Tonsil after removal, showing redundant lymphoid tissue below, and hood above with its lymphoid lining.

ADJACENT MUSCLES

A brief description will be given, in this preliminary report, of the more important muscular relations of the tonsil, with the interpolation of a sentence or two on the surgical significance of each.

The Palatoglossus.—This is an independent leash of muscular fibers which bounds the tonsillar bed in front. It has a fan-shaped origin in the oral surface of the soft palate and ranges round the throat, forming the prominence of the anterior pillar of the fauces and terminating in the lateral aspect of the tongue.

Surgical Significance: The palatoglossus is easily separated from the tonsil with which it is connected only by light fibers of the submucosa. Care should be exercised not to "button-hole" the anterior pillar at the outer edge of the muscle.

The Palatopharyngeus.—This is the most important and also the least understood of the muscles of the pharynx. It is really an inner sheet of muscular fibers disposed vertically and forms a continuous layer round the pharynx between the submucosa and the superior constrictor. Above, its fibers are attached to the soft palate, the eustachian tube, and the base of the skull.

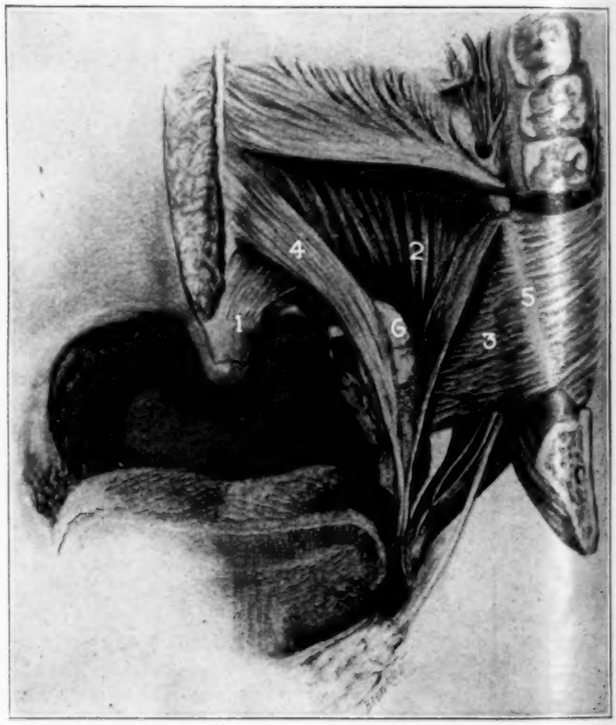


Fig. 5.—Dissection of the left side of the throat of a white man, aged 50, made in October, 1926, at Western Reserve University Anatomy Department. In front of the raphe is seen the buccinator muscle. The superior constrictor muscle runs back from the raphe. Below this, from without inward, are seen the mandible, internal pterygoid, lingual nerve, styloglossus, glossopharyngeal nerve, stylopharyngeus and palatopharyngeus, behind which is seen the tonsil capsule (its upper lobe a hood, its lower lobe a pocket). Behind and lateral to these are vertical fibers of the pharynx, running to the soft palate and the hamular process. These are continued posteriorly as coarser fibers—the palatopharyngeus. Vessels and nerves are shown descending from the palate to the tonsil, together with the attachment of the tonsillopharyngeus in the groove between the upper and lower lobes. 1, levator palati; 2, palatopharyngeus; 3, superior constrictor; 4, palatoglossus; 5, pterygomandibular raphe with superior constrictor medially and buccinator laterally; 6, upper lobe or hood of tonsil.

Below, its fibers lose themselves in the upper esophageal wall. It has a slight reinforcement from the stylopharyngeus, though most of the stylopharyngeus fibers remain separate.

Although the palatopharyngeus forms a sheet continuous with its fellow right round the posterior wall of the pharynx, it is the lateral part which interests us most. This lateral part arises from the soft palate as far laterally as the hamular process. Its fibers, originally a thick sheet above, become thinner and more sparse in their descent, especially below the level of

the superior constrictor, where they are reinforced by, and intermingled with, some penetrating fibers from the stylopharyngeus. A reduplicated mass of the palatopharyngeus fibers forms the posterior pillar of the fauces and acts as a definition of the tonsillar bed behind. Unlike the palatoglossus, this is not a separate

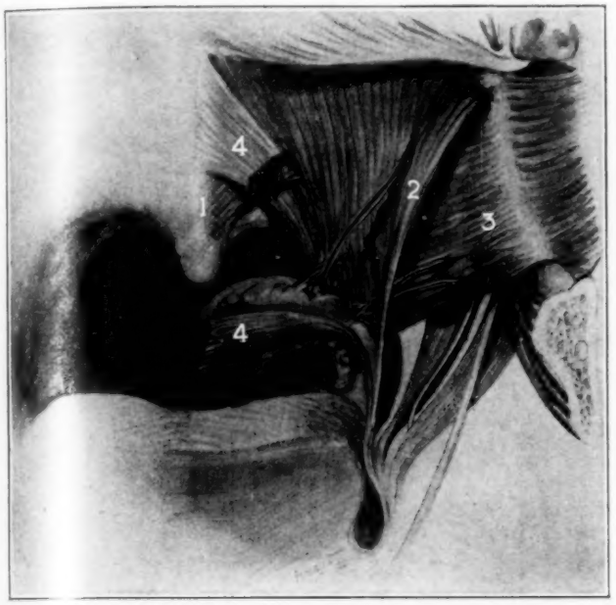


Fig. 6.—Dissection of left side of throat continued. At this stage the palatoglossus is cut and its lower part turned down along with the tonsil. Deep in the severed palatal portion are fibers of the levator palati which pierce the palate between bundles of the palatopharyngeus. The latter muscle, therefore, in sections of the palate, appears both above and below the levator palati. The coarse bundles of the palatopharyngeus form a special thick mass known as the posterior pillar of the fauces. The attachment of the lateral vertical fibers of the pharynx to the equator of the tonsil (tonsillopharyngeus) and branches from the lingual artery entering the equator are well seen. The large vessel supplying the capsule is shown piercing the lateral vertical fibers on its way from the descending palatine artery. Other branches shown reaching the tonsil equator are probably from dorsalis linguae. 1, levator palati; 2, palatopharyngeus; 3, superior constrictor; 4, palatoglossus.

muscular mass. In front, the palatopharyngeus merges into and becomes indistinguishable from the buccopharyngeal fascia. As this fascia is cut away, the muscle appears to have a thin, sharp anterior delimitation.

Surgical Significance: The palatopharyngeus forms the posterior pillar and upper portion of the tonsillar bed. Its attachments, like those of the anterior pillar, are easily severed, though scars frequently complicate this part of the dissection and render it more difficult.

Tonsillopharyngeus.—Fibers of the lateral part of the palatopharyngeus become caught in the mass of lymphoid tissue at the junction of the upper and lower lobes or pockets of the tonsil. This connection, hitherto undescribed, but nevertheless significant, both for its function of retaining the tonsil in place and for its importance in the surgical enucleation of the tonsil, we propose to call the tonsillopharyngeus.

Surgical Significance: The key to the better tonsil operations (whatever instruments used) lies in the understanding of this bundle. It is the only muscle known to attach directly to the capsule.

The Superior Constrictor (musculus constrictor pharyngis superior).—This is a muscle with transversely disposed fibers. It forms the circular musculature of the pharynx and lies between the inner vertical fibers of the palatopharyngeus and the outer vertical fibers of the stylopharyngeus. It arises from the lower third or less of the internal pterygoid plate, the hamular process, the pterygomandibular raphe and the mandible at the attachment of this raphe, which lies between the superior constrictor and the buccinator. Passing transversely, the superior constrictor terminates in the median raphe on the back of the pharynx, its upper fibers inclining upward to the base of the skull. The muscle has free sickle-shaped upper and lower margins. Above the muscle the levator palati reaches the pharynx, and between the lower border of the superior constrictor and the upper border of the middle constrictor the fibers of the stylopharyngeus penetrate.

Surgical Significance: Nowhere does the superior constrictor come into direct relationship with the tonsil. This fact is established in all our dissections.

In figure 5 it is seen that the superior constrictor lies lateral only to the upper lobe or pocket of the tonsil, separated from it by the palatopharyngeus. The lower lobe or pocket of the tonsil is covered laterally by the fibers of the palatopharyngeus (sparse and thin at this location). External to it lie the styloglossus and stylopharyngeus muscles, and the lingual and glossopharyngeal nerves.

Surgical Significance: In freeing the lower lobe, the close proximity of the glossopharyngeal nerve should be realized. It is frequently exposed, as are the tendons of the muscles attached to the styloid process, if the thin layer of palatopharyngeus is accidentally broken.

SUMMARY

1. To place tonsil surgery on a basis of scientific accuracy, it is requisite that the structures involved be fundamentally correct. These structures are complicated; not only the tonsil but the pharyngeal fascia and related muscles.

Fig. 7.—Surgical removal of left tonsil. Serrated edge of dissector (Fisher) is shown freeing the tonsillopharyngeus attachment from its groove.

2. The tonsil itself is a lymphoid-lined pocket.

3. The upper lobe is a hood and the lower lobe (from which springs the central mass) is a pocket. These are marked off from each other by a groove in the capsule.

4. The so-called capsule is a thin sheet of fibrous tissue left covering the tonsil after removal. It is an

artefact created during the operation by the surgeon stripping away a layer of pharyngeal fascia.

5. The superior constrictor muscle is not an immediate relation, as the palatopharyngeus lies between it and the capsule, to which it is attached at the groove between the upper and lower pockets by a bundle of fibers. This muscular attachment we have called the tonsillopharyngeus muscle.

6. If this muscular attachment is teased through, complete enucleation of the tonsil can be carried out easily and without injury to the underlying structures.

153 East Sixty-Second Street—2109 Adelbert Road.

THE CORRECTION OF SECONDARY PALATE DEFECTS

FREDERICK B. MOOREHEAD, M.D.
CHICAGO

The causes of secondary defects of the hard and soft palate are mainly unsuccessful operations for congenital clefts, and such diseases as syphilis, tumors and cysts. The difficulty is further increased through repeated operative failures. Ordinarily an opening in the palate can be closed if scarring is not extensive. The two outstanding points in my experience are the relation of the pedicle and the size of the flap. The pedicle should always be toward the rear, and the flap as large as the territory will provide. A small flap is likely to fail and, worse still, may increase the size of the defect.

The illustrations will indicate several flap preparations for the correction of the more or less typical secondary defect. The short palate has been probably

Fig. 1.—Simple method of closing a small opening in the middle of the hard palate.

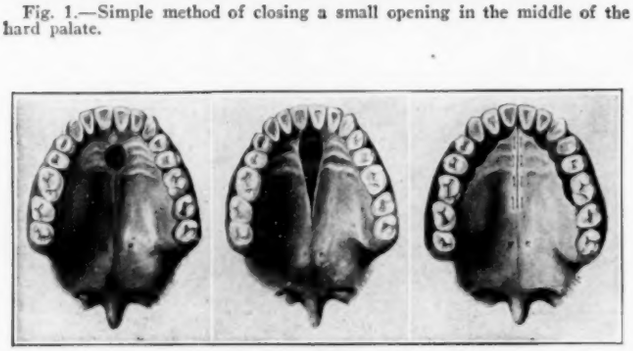


Fig. 2.—Flaps for the closure of an opening in the anterior third of the hard palate.

the most common failure, and only recently have I succeeded in overcoming this most serious defect. The various flaps from the pillars have not been entirely successful. The short palate may be corrected through the transposition of the palate, as illustrated. This may be combined with the newer operation for closure of wide clefts in the soft palate. The two operations may be made conjointly or separately.

Halle and Ernst, two German surgeons, have developed a technic which resembles somewhat the one I am illustrating. I have not seen the original illustrations of their methods, but I understand that they involve a narrowing of the nasopharynx by the removal of a section in the posterior wall. Their method, as I understand it, also involves the adjustment of more or less complicated celluloid plates. For two years I have been developing a technic which apparently resembles

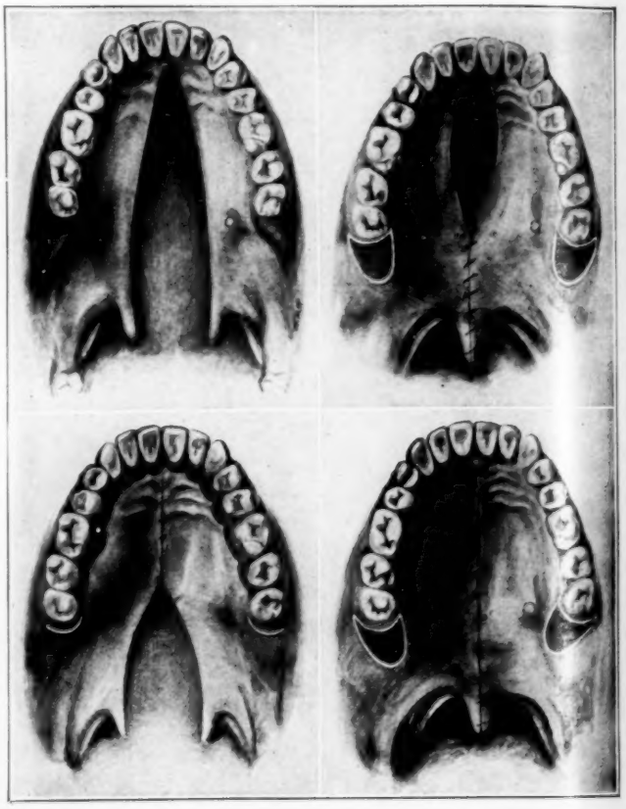


Fig. 3.—New method of closing a wide cleft. The anterior or the posterior closure may be elected for the first operation.

the method credited to Halle and Ernst, but I have not carried the dissection into the posterior wall of the pharynx, nor have I used any artificial device. While one may succeed in getting a longer palate by the methods usually employed, the result is not satisfactory from the functional point of view, while, on the other hand, the newer technic not only furnishes a longer palate and is successful in practically every case, but also gives a very much better speech result.

The newer method involves an incision beginning in the molar region, close to the teeth, carried backward around the tuberosity. With a blunt chisel the hamular process is fractured and detached. The tissues are elevated behind the tuberosity, and a blunt dissection is carried beneath all the muscles until an opening is reached on the border of the posterior wall of the pharynx. It will be seen at once that this releases the entire body of tissue, which may be carried over to the median line without any injury to the blood supply, making possible immediate closure at any length desired.

All the lateral incisions in common use injure the palate. Vessels and muscles are injured and the resulting scar interferes with function. Injury to vessels and muscles, and resulting scar formation, are avoided in the newer operation.

Where the defect is extensive and the flaps have to be carried any appreciable distance, the wound on each side may be packed for a few days with iodoform gauze, saturated with compound tincture of benzoin. Ordinarily the usual suturing of the margins is sufficient, but where the distance is great these sutures may be reinforced with a tension suture of silkworm-gut.

In transposing the palate, the technic which I have illustrated for closure of anterior defects may be used with a slight modification. Here an incision is carried from behind the tuberosity, following the teeth up to the region of the cuspid and then backward and inward

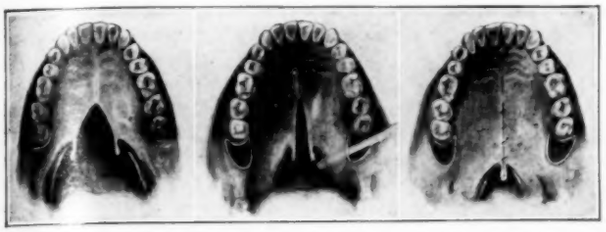


Fig. 4.—New method of closing a wide cleft in the soft palate. It will be noted that a perfect closure is insured and a much longer palate obtained.

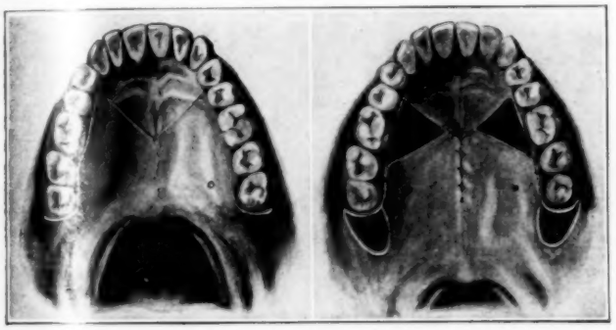


Fig. 5.—Method of transposing the palate to: (*a*) lengthen the palate and (*b*) release tension and make possible the closure of the nasopharynx in speech.

to the median line. The entire palate is released from its bony attachments, except at a point where the palatine vessels are related. By forcing the palate backward and bringing the two flaps together at the median line, the palate is very materially lengthened with all its blood supply intact. This technic not only provides a longer palate but is one in which it is not put on as great a tension as by the older methods, and makes possible the shutting off of the nasopharynx, which is a functional requirement.

It is not enough merely to lengthen the palate, but the tissues must be resilient and pliable enough to be drawn up in the act of speech.

30 North Michigan Avenue.

Physiologic Comparison Between Women and Men.—The girl has relatively larger organs below the diaphragm, and smaller ones above the diaphragm. The hips and thighs have more adipose tissue and less muscle. The center of gravity is thus lower. Metabolism is less rapid in women than in men, the ratio being 100:141. Women do better in exercise of moderate endurance than men. They do not do as well in exercises of sport with the hands or in exercises of speed. Women, biologically, are in general anabolic in type, while men are catabolic. Because of her structure, woman has less ability than man in heavy gymnastics and in those competitive games which require heart and lung power.—Intercollegiate Sports for Women, editorial, *Am. Physical Education Rev.*, April, 1924, p. 198.

PSEUDARTHROSIS OF THE TIBIA IN YOUNG CHILDREN

REPORT OF A CASE IN WHICH UNION WAS ACCOMPLISHED BY OPERATIVE TREATMENT *

RICHARD B. DILLEHUNT, M.D.
AND
JOHN F. LeCOCQ, M.D.
PORTLAND, ORE.

Pseudarthrosis of the long bones of young children and particularly that form resulting from ununited fracture in infancy is generally recognized as one of the most perplexing problems with which the orthopedic surgeon has to deal. The tibia is by far the most frequent site of the lesion.

In several cases we have attempted to secure union by means of autogenous bone grafts with failure in every instance, an experience which seems to be in accord with that of others. Henderson,[1] in a recent article, states that he has been quite unable to obtain union by means of bone graft in nonunion of the tibia in children, and he advises conservative measures to prevent deformity, deferring operative measures until the age of puberty.

The case reported here is one of definite pseudarthrosis of the tibia of nearly two years' duration in a child aged 2½ years in which operative treatment resulted in secure bony union. Although the results are not entirely comparable to those in ununited fracture, they are considered worthy of being reported because of the rarity of success in any case.

REPORT OF CASE

History.—W. P., a boy, aged 14 months, admitted, Dec. 4, 1924, to the outpatient clinic, had had an attack of measles at the age of 4 months which in a few days was complicated by bilateral cervical adenitis. A few days later there developed acute osteomyelitis of the left clavicle, which was opened and drained. Approximately one week later, acute osteomyelitis of the proximal half of the left tibia developed. Five days later most of the proximal part of the tibia was evidently resected subperiosteally, as was indicated by the roentgenographic studies made when the child was admitted to the outpatient clinic.

Fig. 1.—Nonunion of tibia: *A*, of seven months' duration; *B*, of approximately eighteen months' duration.

Physical Examination.—The boy was well nourished, and nothing of importance was disclosed except a healed scar over the left clavicular region and draining sinuses along the tibial surface of the left leg. There was abnormal mobility in the proximal third of the left tibia, atrophy and deformity.

* From the Shriners' Hospital for Crippled Children.

1. Henderson, M. S.: Ununited Fractures, J. A. M. A. **86**:81 (Jan. 9) 1926.

Laboratory Tests.—Roentgenograms taken at the time of admission revealed that evidently most of the proximal part of the shaft of the left tibia had been resected subperiosteally at a former operation. There was extensive regeneration of the shaft, except in the proximal third, at which site there was a definite interruption of the continuity of the bone.

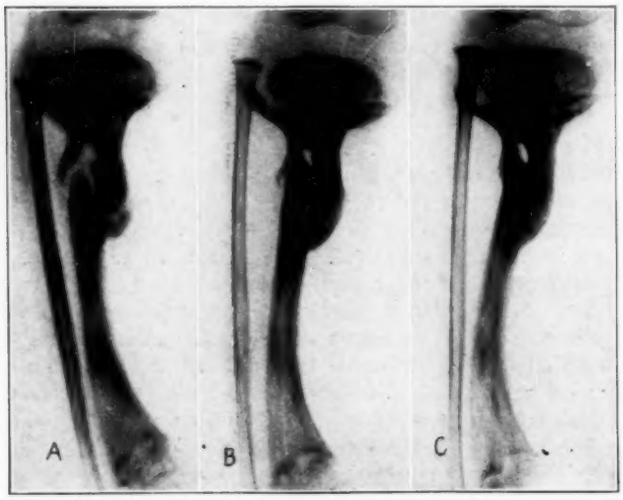


Fig. 2.—*A*, callus production, six weeks after operation, at site of former nonunion of tibia; *B*, definite bony union, four months after operation, at site of former nonunion of tibia; *C*, firm bony union, six months after operation, at site of former nonunion of tibia.

The blood and qualitative urinary examinations did not reveal anything of clinical import. The blood Wassermann reaction was negative.

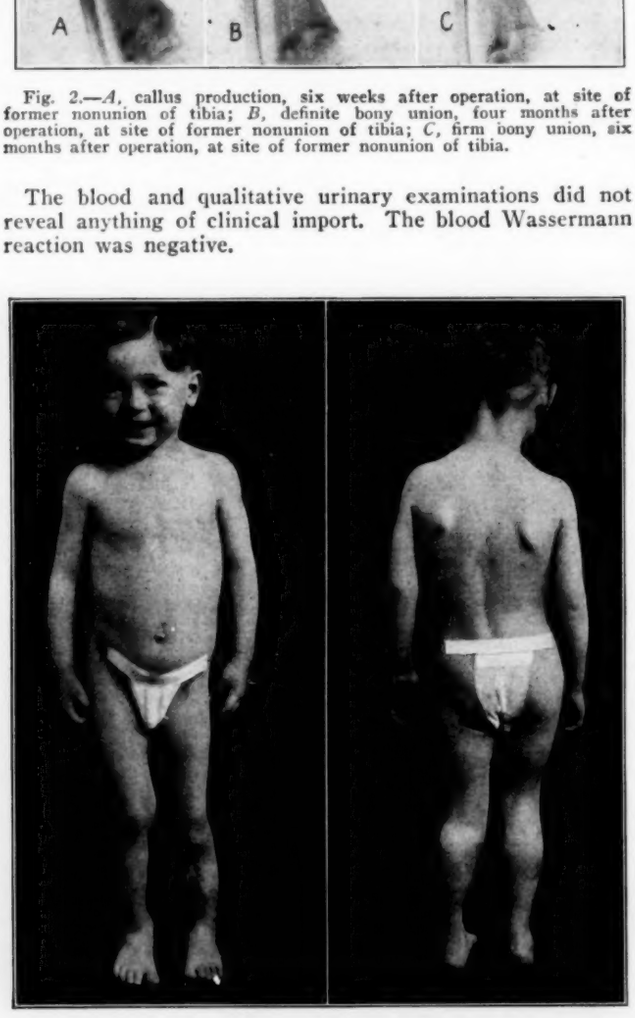


Fig. 3.—Appearance of patient on discharge.

Clinical Course and Treatment.—The existence of the draining sinuses along the tibial surface of the left leg precluded any operative attempts to obtain bony union at the site of the pseudarthrosis. The extremity was therefore kept immobilized in plaster, and weight bearing was permitted in the hope of stimulating osteogenesis.

After seven months, the draining sinuses had entirely healed. However, nonunion was still present in the tibia, as indicated by clinical examination and roentgenographic studies. The roentgenographic appearance of the tibia is shown in figure 1 *A*.

However, in view of the recently healed osteomyelitis of the tibia, conservative treatment was continued for another period of almost a year. The extremity was kept immobilized in plaster and weight bearing was permitted. At the end of this period nonunion was still present, as indicated in figure 1 *B*.

It was evident that union certainly could not be expected by means of conservative methods of treatment, and operative intervention was decided on.

In June, 1926, the proximal third of the tibia was exposed, and the site of nonunion revealed the bone ends to be covered by an intervening mass of fibrous tissue within which was the common bursa-like sac containing fluid similar to synovial fluid. All fibrous tissue was dissected away from between the bony surfaces, but the periosteum surrounding fragments was not disturbed. The bone surfaces were chiseled free until fresh bleeding bone was exposed and a single drill hole was made in each, through which a heavy chromic catgut suture was passed and tied, securing firm apposition. In order to maintain accurate apposition without strain on the suture, it was necessary to rotate the distal fragment internally and to produce a marked bowing of the tibia. To accomplish apposition without deformity would have necessitated further freeing of the fragments, subperiosteally or otherwise. It is our suspicion that the chief source of blood supply to the fractured ends in these cases is from the periosteum and surrounding soft parts, and consequently to separate the bone therefrom at least temporarily interrupts its nutrition with resulting atrophy. We therefore preferred to bring bleeding bone to bleeding bone without interfering with the blood supply, even at the expense of marked deformity. The wound was closed, and the extremity was fixed in plaster from toes to hip.

Fig. 4.—*A*, three weeks after fracture; *B*, final appearance.

At the end of six weeks roentgenograms revealed definite callus production at the site of operation (fig. 2 *A*). Weight bearing was permitted because of our experience that osteogenesis is encouraged thereby.

Four months later bony union was evident, as shown in figure 2 *B*, and at the end of six months solid bony continuity with definite restoration of cancellous texture had occurred (fig. 2 *C*).

There is still obvious deformity in the way of lateral bowing, which, however, is decreasing so rapidly without treatment that osteotomy in the future in order to correct it will not be necessary (fig. 3), although a bow leg brace will be applied.

COMMENT

Manifestly, this simple procedure cannot be carried out in the old fracture with tapering bone ends some distance from each other, but our experience in the case reported leads us to believe that when the fragments are within reasonable proximity it may be effective.

It is of interest to note that, shortly after complete union had occurred, the boy fell and fractured the same tibia at a lower level. A splint was applied and union was prompt (fig. 4).

KÖHLER'S DISEASE OF THE TARSAL SCAPHOID BONE

REPORT OF A CASE, INCLUDING A STUDY OF THE INORGANIC COMPOSITION OF THE BLOOD *

MORTON SELDOWITZ, M.D.
AND
LEO ZIMTBAUM, M.D.
BROOKLYN

The gratifying results that have attended the recent studies on rickets have stimulated a study of the less common diseases associated with a disturbance of calcification. Among these may be mentioned Legg-Perthe disease, Osgood-Schlatter disease, Köhler's disease of the second metatarsal bone, and Köhler's disease of the tarsal scaphoid bone. Our object in the present article is to place on record another case of Köhler's disease of the tarsal scaphoid bone, as well as a study of the chemical composition of the blood, which throws considerable light on its etiology.

REPORT OF CASE

B. F., a boy, aged 6 years, was admitted to the outpatient department of the Brooklyn Jewish Hospital, Oct. 30, 1926, complaining of pain and swelling of the right foot of ten days' duration. The family history was negative and the past history irrelevant. He had been a full term baby, weighing 9 pounds (4 Kg.) at birth, and had been breast fed one year. He had measles at 2 years of age, suppuration of the cervical lymph glands at 4 years, and pertussis at 5 years. The tonsils and adenoids were removed at 4 years. The onset of the present illness was insidious, with pain on pressure over the arch of the right foot. He had been hopping on the left foot for the past week.

Fig. 1.—A distinct flattening and irregularity of the scaphoid bone, characteristic of Köhler's disease.

The patient was well nourished. There was a firm and tender swelling over the arch of the right foot in the region of the scaphoid bone. Redness, heat and fluctuation were absent. The right arch measured 7½ inches in diameter, the left 7. Roentgenography revealed a distinct flattening and irregularity of the scaphoid bone of the right foot, as shown in figure 1. The blood Wassermann reaction was negative. Chemical analysis of the blood serum revealed a calcium concentration of 10.4 mg. per hundred cubic centimeters and an inorganic phosphorus of 3.9 mg. per hundred cubic centimeters, giving a product of 40.

The boy was observed for six weeks. At the end of this period, the clinical observations were practically the same: the calcium concentration was 9.6 mg. per hundred cubic centimeters and the inorganic phosphorus 3.8 mg., the product of the two being 36. Ultraviolet ray therapy was then instituted, the entire body being exposed to the mercury lamp at a distance of 30 inches. In addition the patient was ordered to take 1 drachm (3.75 cc.) of a standardized cod liver oil three times daily. In all, he received nine exposures to the quartz lamp for a total of ninety minutes. Four weeks after the beginning of this antirachitic therapy he showed marked clinical improvement; the swelling and tenderness had disappeared, and he was able to walk. The calcium concentration of the blood serum remained at 10.1 mg. per hundred cubic centimeters but the inorganic phosphorus had increased to 5.0 mg., giving a product of 50. The roentgenogram revealed definite evidence of healing in the scaphoid, indicated by a widening of the bone due to fresh depositions of lime salts, as demonstrated in figure 2.

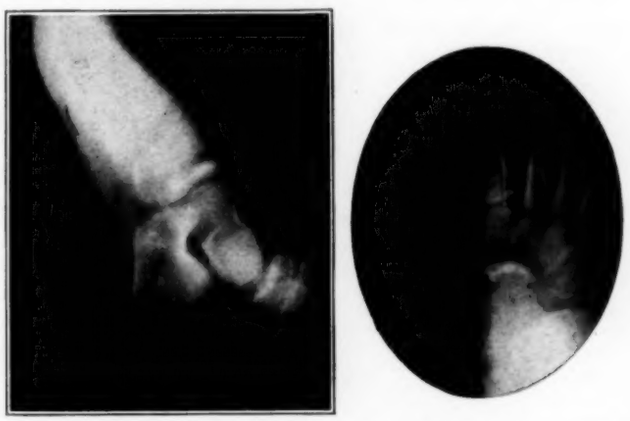


Fig. 2.—Definite evidence of healing in the scaphoid bone, demonstrated by a widening of the bone due to fresh deposition of lime salts.

The patient was last seen, July 12, 1927. He had no complaints. His gait was normal, and physical examination revealed a normal contour of the arch of the right foot.

COMMENT

Among the many etiologic factors proposed by some and denied by others are mild infection, endocrine disturbance, abnormal center of ossification, trauma with resulting delay of ossification, compression fracture, traumatic interference with circulation, defect in the mechanism of bone development, anemic necrosis, mild tuberculosis, and nutritional disturbance. Christie,[1] Kidner and Muro,[2] and others believe that syphilis, tuberculosis and rickets do not play an etiologic rôle; nor do sex or heredity. Such a long list of suggested causes in itself shows how little is known of the etiology of the disease.

Few histologic studies of the scaphoid bone in Köhler's disease have been made. Kidner [2] performed a biopsy and reported his histologic observations as follows: Microscopic examination revealed a cellular cartilage, in the center of which were two distinct centers of ossification, separated from each other by trabeculae of cartilage; the ossification centers consisted of osteoid septums of fibrous tissue and cartilage, with normal marrow tissue in the interstices. There was

* Read before the Brooklyn Pediatric Society, Feb. 16, 1927.
* From the Pediatric Department and the Harry Caplin Pediatric Research Laboratory, the Jewish Hospital of Brooklyn.

1. Christie, A. C.: Osteochondritis or Epiphysitis: A Review, J. A. M. A. **87**: 291-295 (July 31) 1926.
2. Kidner, F. C., and Muro, Felipe: Köhler's Disease of the Tarsal Scaphoid, J. A. M. A. **83**: 1650-1654 (Nov. 22) 1924.

imperfect deposition of lime salts throughout, the process being osteoid rather than true bone-forming.

Tisdall and Harris [3] studied the inorganic phosphorus content of the blood serum of ten normal children whose ages varied from 1 to 12 years; the lowest concentration was 4.8 mg. per hundred cubic centimeters, and the highest 6.0 mg., the average being 5.6 mg. Tisdall, Kramer and Howland [4] obtained a calcium concentration of 10, 10.2, 10.2, 10.8, and 11 mg. per hundred cubic centimeters, respectively, in five normal children, making an average of 10.4 mg. Thus the average calcium and phosphorus product for a normal boy of 6 years should be about 55. Our patient had a product of 40 and 36 on two determinations before antirachitic therapy was instituted, and 50 after treatment. Kramer and Howland [5] have demonstrated that when the product of the calcium and phosphorus concentrations expressed in milligrams per hundred cubic centimeters is below 30, active rickets is present; a product of 30 to 40 indicates a mild rickets or beginning healing; if the product exceeds 40, healing is going on or the child has never had rickets.

It is worthy of note that this disease occurs between the third and the sixth year, before the scaphoid is completely calcified and at a time when it is still capable of developing true rickets. The chemical analyses in our case suggest the presence of rickets manifested in the tarsal scaphoid bone. The consensus of opinion on the subject is that, under rest and palliative treatment, healing takes place in from six to eighteen months; on antirachitic therapy we have produced healing in four weeks. The efficacy of antirachitic therapy and the histologic evidence of the presence of osteoid and irregular calcification speak for the rachitic nature of this process.

SUMMARY

From our observations we would suggest that Köhler's disease of the tarsal scaphoid bone is a manifestation of rickets. The condition of the blood and the prompt improvement following antirachitic therapy support this contention. We realize that it is impossible to generalize on the basis of a single case, but we report this instance in the hope that those who have the opportunity of seeing the disease and its allied disturbances will be encouraged to make similar observations that new light may be thrown on a group of diseases, the etiology of which hitherto has been obscure.

Classon and St. Marks avenues.

3. Tisdall, F. F., and Harris, R. T.: Calcium and Phosphorus Metabolism in Patients with Fractures, J. A. M. A. **79**: 884-887 (Sept. 9) 1922.
4. Tisdall, F. F.; Kramer, Benjamin; and Howland, John: Clinical Significance of Calcium Concentration in Serum of Children, Am. J. Dis. Child. **22**: 560 (Dec.) 1921.
5. Howland, John; and Kramer, Benjamin: Calcium and Phosphorus in Serum in Relation to Rickets, Am. J. Dis. Child. **22**: 105 (Aug.) 1921.

Superstition and Science.—The historian of science cannot devote much attention to the study of superstition and magic, that is, of unreason, because this does not help him very much to understand human progress. Magic is essentially unprogressive and conservative; science is essentially progressive; the former goes backward; the latter, forward. We cannot possibly deal with the two movements at once except to indicate their constant strife, and even that is not very instructive, because that strife has hardly varied throughout the ages. Human folly being at once unprogressive, unchangeable and unlimited, its study is a hopeless undertaking. There cannot be much incentive to encompass that which is indefinite and to investigate the history of something which did not develop.—Sarton, George: Introduction to the History of Science.

Clinical Notes, Suggestions and New Instruments

PRENATAL RUPTURE OF THE INTESTINE WITH SUBSEQUENT DYSTOCIA

JAMES HUBERT SKILES, M.D., OAK PARK, ILL.

Prenatal rupture of the intestine is a rare condition and only a few cases have been described in the literature. Its rarity would seem a sufficient excuse for reporting a case aside from several interesting features connected with it.

A search of the literature has been made and nothing has been discovered in English. The German literature reveals a few cases of prenatal rupture of the intestine.

The earliest description of a case found was that of Breslau [1] in 1863. A baby girl with breech presentation died during instrumental delivery. An autopsy revealed perforations at the transition of the ascending colon to the transverse colon. The author believed that the perforations occurred before birth. There was evidence of peritonitis

Observations at autopsy and site of perforation.

with meconium adhesions and fresh exudative general peritonitis in the abdomen but without gas.

In 1891, Genersich [2] reported a case in which the child died forty-five hours after a breech delivery. The abdomen at autopsy was found markedly distended. In the ileum, a perforation the size of a grain of millet was found. The author believed that the perforation occurred before death, basing his assumption on the fact that the granulation tissue at the site of the perforation was in an advanced stage of development with well developed fibroblasts and endothelium, and the new vessels had thick walls. Peritonitis was also present. The mucosa of the ileum was pale and without signs of ulceration.

Orth [3] reported a case in a new-born child in whom Meckel's diverticulum was split in its entire length and was adherent to the abdominal wall under the umbilicus; meconium had discharged into the abdominal cavity and had collected in considerable amount between the abdominal wall and the thickened omentum.

1. Breslau: Intra-Uterine Perforative Peritonitis in a Hydrocephalic Child, Monatschr. f. Geburtsh. u. Gynäk., Suppl. **21**: 141-145, 1863.
2. Genersich, Anton: Peritonitis in the New-Born as a Consequence of Perforation of the Ileum, Arch. f. path. Anat. **126**: 483-494, 1891.
3. Orth: Lehrbuch der pathologischen Anatomie **3**: 765.

Zillner reported a case in which a prematurely born child was found dead with a ruptured ileum.

Pfaff,[4] in 1899, described an interesting case most nearly simulating the one here reported than any other that has been discovered. The birth was rapid and easy and the child lived two days. The abdomen was distended at birth and the child never had a bowel movement. At autopsy the abdomen was distended and rigid. A perforation the size of a pea was located at the anterior portion of the cecum. This was probably prenatal, because the abdomen was distended at birth. There was a mechanical obstruction of the bowel due, apparently, to a basic lack of mesocolon. The entire large intestine, especially the cecum, the ascending colon and the transverse colon, were fixed to their substratum. Almost all the large bowel was collapsed and contained nothing except a grayish mucus which had thickened into a tough cord. On the other hand, the proximal part of the large intestine was greatly dilated and filled with meconium. Parts of the small bowel were greatly dilated, but the terminal ilium was empty, the meconium having passed into the abdomen through the perforation in the cecum.

A case was reported by von Sury[5] in 1912. There had been a normal labor, and the child lived twenty-four hours and had two stools. At autopsy, the abdomen was found distended and soft. At the site of the rectum, immediately before the transition of the latter into the sigmoid flexure, a perforation was found. The author believed that the rupture occurred prior to birth, and based his assumption on the swelling of the scrotum noted at birth. Autopsy showed open inguinal canals and the scrotum filled with meconium and peritonitis.

REPORT OF CASE

A primipara, aged 25, had had a very uneventful prenatal period, without complaints at any time. Careful physical examinations had not revealed any evidence of organic disease or any functional disturbance. The blood pressure readings and urinary condition remained well within normal bounds.

The patient entered the West Suburban Hospital, Aug. 24, 1927. The labor began at 9 a. m. and lasted nineteen hours. Normal expulsion of the head occurred in the right occipito-anterior position. The shoulders were delivered with great difficulty, and then it was found that the trunk could not be extracted. A vaginal examination revealed an enormously distended abdomen in the child, and paracentesis of the abdomen was performed. A large amount of meconium-stained fluid was evacuated from the abdomen of the child, after which it was easily extracted. It lived about twenty minutes. A second degree laceration and episiotomy in the mother was repaired, and her convalescence was uneventful.

An autopsy was performed on the baby by Dr. Eugene Piette. The head was not examined. The chest was normal. The abdomen revealed a meconium-stained glairy and flocculent fluid, which on bacteriologic examination was found to be free from organisms. The small intestine showed a volvulus with a markedly distended dark red bowel proximal to the twisted loop, and a pale collapsed bowel distal to it. In the twisted loop was found evidence of a perforation which microscopic examination showed to be healed. The surface of the liver was covered over by a shaggy, fibrous meconium-stained exudate resembling the exudate in a purulent pericarditis.

COMMENT

The interesting features in this case are several. Doubtless the course of events was as follows: At some time previous to birth, a twist of a loop of the small bowel occurred from some unknown cause. This resulted in a mechanical obstruction of the bowel at this point, causing distention of the involved loop and interference with its blood supply. A perforation resulted, probably as a result of the impaired circulation or overdistention, and an aseptic generalized meconium peritonitis followed. The perforation healed subsequently but the peritonitis continued, causing a large amount of fluid to collect in the peritoneal cavity of the child. This distention of the abdomen made a normal delivery of the child impossible and necessitated its relief by operative means.

127 North Oak Park Avenue.

4. Pfaff, Ernst: Spontaneous Rupture of the Intestines in the New-Born, Dissertation Giessen, Münschow'sche Hof- und Universitätsdruckerei, 1899.

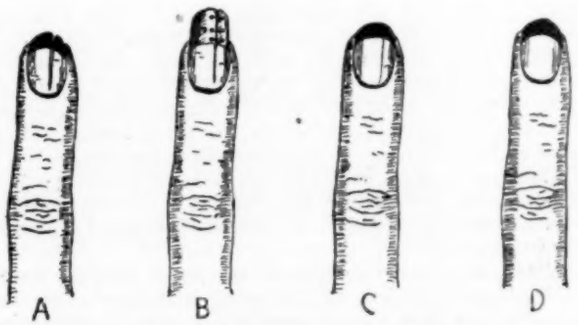
5. Von Sury: Spontaneous Rupture of the Intestines in the New-Born, Vrtljschr. f. gerichtl. Med., series 3, **43**: 91-95, 1912.

TREATMENT FOR SPLIT FINGER-NAILS

WILLIAM WESLEY CARTER, M.D., NEW YORK

In the pursuit of our scientific work and in our efforts to plan and execute surgical measures which sometimes prove to be of major proportions and attract considerable attention, especially from a dramatic point of view, we are apt to overlook or place too little importance on commonplace ailments, the sum total of which, however, contribute quite a large proportion of the ills to which human flesh is heir.

I have been a member of the American Medical Association for many years and have read fairly diligently and absorbed as much as I could of the valuable information contained in THE JOURNAL, yet I do not recall ever having seen in its contents any reference to split finger-nails. I acknowledge willingly that this great medical publication is not especially devoted to such humble subjects, but at the same time I make bold to assert that it is deeply interested in any subject that makes for the betterment of mankind,



Procedure for curing split finger-nail: *A*, original condition; *B*, sutures applied; *C*, nail in process of healing; *D*, complete cure.

whether the measure demands the attention of the profound scientific thinker or is the impromptu mechanical expedient which a practical clinical worker has successfully applied for the relief of a minor physical defect, the never relaxing annoyance of which, however, has contributed many an uncomfortable hour to the victim and may possibly have curtailed to some extent his usefulness.

Three years ago, a girl, aged 18, came to me for the relief of a split nail on the middle finger of the right hand; the split reached almost to the root of the nail and had resulted from an injury to the finger six years before. During all these years this young woman, whose resources permitted her to command the attention of the most skilful men, had been going from one surgeon to another in the hope of securing relief but without the slightest success. As the nail grew out, the apex of the slit would remain at about the same place. She finally resorted to the expedient of keeping the finger encased in adhesive plaster in order to protect it. It is unnecessary to say that not only was the situation embarrassing but the use of the hand was greatly restricted.

I advised her to let the nail grow about three-eights inch beyond the end of the finger and then to return to me for treatment. I then made a drill from a cambric needle and with this I made three opposing holes on each side of the slit, as shown in the accompanying illustration. I passed sutures through corresponding holes and drew the edges of the nail as close together as possible. The finger was then bandaged for protection. I used as suture material 000 Bauer and Black dermal suture, which is fine, strong and elastic and keeps up a constant tension, which is very necessary in the treatment. As the nail in growing protruded the distance between two of the sutures, the distal end of the nail was

pared and another suture placed near the end of the finger. This process was kept up until the apex of the slit was well beyond the end of the finger.

A complete cure was effected in six weeks. After the lapse of three years the nail is perfectly normal, so that I feel justified in saying that the result is permanent. The repeated expressions of gratitude coming from this young woman indicate clearly that she must have suffered acutely for years before this treatment was instituted.

I hesitate to claim originality for this procedure for, as Solomon said, "There is nothing new under the sun." I have no knowledge, however, of its having been carried out before.

2 East Fifty-Fourth Street.

A SIMPLE METHOD OF MEASURING CEREBROSPINAL FLUID PRESSURE

THEODORE C. GREENE, M.D., PEKING

A recent description[1] of a very ingenious adaptation of the mercurial blood pressure manometer to the study of cerebrospinal fluid pressure suggests this note. The method here described is well known, but in view of the use of mercurial manometers deserves to be even better known. I first saw the method used by Dr. Harvey Cushing, and have since found it valuable on the mission field, where simple tools must be used when possible.

After the lumbar (or ventricular) puncture has been performed, a sterile piece of glass tubing, 2 feet long and with a small caliber, is connected with the needle by means of a sterile piece of small rubber tubing, 1 or 2 inches long. The height to which the spinal fluid rises above the needle may be read by a ruler placed beside the glass tubing. If one wishes to remove some of the spinal fluid, one merely lowers the glass tubing to a horizontal position without disconnecting it, allows the fluid to drop into a container, and then raises the tubing again to a vertical position for another pressure reading.

Besides its simplicity, a great advantage of this method of using spinal fluid instead of mercury in measuring pressure lies in the fact that, because mercury is about thirteen times as heavy as water, the readings are proportionately larger with this method than with a mercurial manometer. In studying a case of possible spinal fluid block, the oscillations caused by respiration, coughing, and pressure on the jugular veins are easily seen in the spinal fluid level in the glass tubing.

Presbyterian Mission.

1. Vischi, G. J.: Substitute for the Mercurial Spinal Manometer, J. A. M. A. **89**: 883 (Sept. 10) 1927.

DIPHTHERIA OF THE PENIS

J. FREDRIC PRINZING, M.D., DENVER

The most frequent site of diphtheritic inflammation is the mucous membrane of the throat, larynx and nose. Diphtheria organisms have also been found in the ear, on the mucous membrane of the stomach, in the vulva, and on the conjunctiva and the skin. In view of these facts, the case reported here is not only unusual, but also important clinically.

REPORT OF CASE

A man, aged 28, married, seen, May 1, 1927, at 7 p. m., complained simply of feeling ill, the reason for such an indefinite complaint, as was discovered later, being that his brother-in-law was present at the first visit. He had been in this condition for two or three days, the onset having been gradual in character. On general examination, the temperature was found to be 104 F. and the pulse 126. The head, neck and chest were normal, as was also the abdomen except in the inguinal regions, where large, tender and red masses below the inguinal ligament on both sides presented a severe adenitis. The penis was swollen, with a phimosis so tight over the glans that it could not be retracted. There was a slight discharge of pus from the urethra. No smears were taken at this time. Further questioning did not help in arriving at a diagnosis. The patient was given an antipyretic, and although he stated that there had not been any occasion for venereal infection, a silver solution was injected between the glans and the prepuce.

The following morning the temperature was 102 F., with the pulse in proportion; the penis was more inflamed, and the edema and redness extended farther up the shaft. The patient was taken to the hospital, and under a general anesthetic a dorsal slit was made. The cut edges of the prepuce were 1 cm. in thickness and quite edematous with very little bleeding. The skin was retracted carefully and a cheeselike substance appeared as the prepuce was separated from the glans, showing a severe balanoposthitis. At that time diphtheria was considered during conversation, but the possibility was lightly passed over and no smears were taken. A wet boric dressing was applied and the patient returned to bed. That evening the general signs appeared much the same except for a slight drop in temperature; the cut edge of the prepuce had not changed. During the night the patient was in slight pain, and quite uncomfortable and restless. Next morning the temperature was down about 1 degree, but the penis was no better, and the patient was in much pain. A culture was taken and sent to the laboratory for examination for diphtheria; the report was positive. The patient was immediately sent to the isolation hospital, and 20,000 units of antitoxin was given intramuscularly and 1,000 locally on the penis. A throat culture was reported negative. Very soon after, the temperature dropped and the patient began to feel much better. The glans at that time showed secondary infections. A check on his family followed. His wife was found to have a positive throat culture and in a sister-in-law (aged 8) the throat culture was positive. Both were taken to a hospital and cultures were ordered taken from the vulva and the vagina of his wife. Only a vulval culture was taken; this proved positive and she was given 10,000 units of antitoxin. The following day a vaginal culture was taken and proved negative. Whether the 10,000 units of antitoxin cleared up the infection in the vagina or whether she had had any vaginal infection is difficult to say.

During this time the secondary infection in the patient had been held in abeyance with a 1:10,000 solution of mercuric chloride, although small ulcers were present on the shaft of the penis, and one was present on the anterior surface of the scrotum. These ulcers were irregular in shape, and varied in diameter from 0.5 to 0.75 cm. They gradually healed, although the progress was slow, and during their healing cultures were taken at daily intervals. Just so long as there remained any raw surface the cultures were positive.

Six weeks after admission all ulcers had healed, leaving some scar tissue and redundant tissue at the frenum. This did not appear to interfere with normal function.

COMMENT

Two cases of diphtheria of the penis have been found in the literature. In 1920, Cochrane[1] of London reported a case in a boy, aged 3½ years. When 5 weeks old this child had been hospitalized for "stoppage of the bowels." While in the hospital he was circumcised. Healing after circumcision was quite slow. Diphtheria of the penis developed three years later; the scource of infection could not be traced. A second case was reported by Bode[2] in 1921. No details of this case were given.

915 Republic Building.

1. Cochrane, G.: Diphtheria of Penis with Paralytic Sequelae, Brit. J. Child. Dis. **18**: 86 (April-June) 1920.
2. Bode, P.: Case of Diphtheria Glandis Penis in Boy of Six, Arch. f. Kinderh. **70**: 112 (Oct.) 1921.

Making Medical Education Attractive.—The student in medicine is not getting a square deal. Most of the work he has to do is dull and dreary and wholly concerned with technical acquisition. His medical education should be made attractive.—Collins, J.: *New England M. J.* **198**:190 (March 15) 1928.

Special Articles

DIPHTHERIA MORTALITY IN LARGE CITIES OF THE UNITED STATES IN 1927

FIFTH ANNUAL REPORT

The fifth annual summary of diphtheria mortality in those cities of the United States having a population of more than 100,000 is here presented.[1] Three cities appear for the first time—Elizabeth, N. J., Erie, Pa., and Oklahoma City—making a total of eighty-one cities. The number of diphtheria deaths for 1927 has been furnished by the local health authorities, who in sixteen cases have also responded to requests for data for previous years which have been lacking in our tables. Similar early data for twelve other cities have been found to be unavailable in the records of the health departments. The population estimates are the same as those used in the following article on typhoid.[2]

Eight of the twelve New England cities (table 1) had higher diphtheria death rates in 1927 than in 1926,

TABLE 1.—*Death Rates of Cities in New England States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1927	1926	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Cambridge...	0.0	0.8	5.8	8.9	12.9	23.8	25.3	46.7	71.9	58.0
New Haven...	1.6	0.6	1.7	7.1	14.2	14.9	22.7	15.6	54.8	74.5
Hartford....	4.2	4.9	3.7	11.9	13.8	25.3	28.1	38.8	47.8	120.9
Worcester....	5.6	7.8	14.6	15.5	14.1	21.3	32.2	16.5	50.3	47.8
Boston.....	7.6	6.9	12.7	20.2	26.3	20.0	26.2	58.7	83.9	112.2
Providence...	8.2	8.0	7.5	15.8	29.3	26.8	30.7	41.2	53.5	55.3
Springfield...	12.2	4.1	4.2	15.4	24.9	19.1	31.3	29.6	51.3	68.2
Fall River....	14.3	13.7	11.6	25.5	23.6	24.0	34.4	50.1	43.8	46.9
Bridgeport...	14.9	6.4	13.9	19.6	23.4	23.3	26.8	34.2	63.9	79.3
New Bedford.	15.6	11.1	7.5	16.5	17.0	20.9	22.6	25.1	53.6	20.0
Lowell.....	16.0	5.3	3.6	16.7	23.5	20.6	31.0	59.3	44.3	36.4
Lynn.....	19.1	12.5	8.7	17.0	17.8	17.2	21.7	38.0	44.0	49.0

striking increases occurring in Springfield (4.1 : 12.2), Bridgeport (6.4 : 12.2) and Lowell (5.3 : 16.0). Only Lynn recorded a 1927 rate as high as its 1920-1924 average. The average rate for the whole group of cities in 1927 (8.82) is considerably higher than the 1926 average (6.75), but not so high as in 1926 (9.25, table 13).

New Haven and Cambridge have held the places of honor among the New England cities by their low diphtheria death rates in all five of these summaries. Heretofore New Haven has had first place, and Cambridge second. In 1927 their positions are reversed, Cambridge reporting no diphtheria death in the city during the year. (The Cambridge report, however, states that six Cambridge residents died of diphtheria outside the city.) Only once before in these summaries has there been a city reporting a year without a diphtheria death (Duluth in 1925).

In connection with the large proportion of New England cities reporting increases in diphtheria during 1927, it is interesting to note the recent diphtheria history of Manchester, N. H., a city of 85,000 inhabitants, which is, of course, not included in these summaries. Since November, 1921, when diphtheria control measures (Schick test, immunization, treatment of contacts and carriers) were undertaken by the health department, diphtheria cases and deaths have decreased regularly for every year, including 1927. In 1922 Manchester had 254 cases and twenty-seven deaths; in 1925, 1926 and 1927 the cases numbered thirty-one, twelve and nine, respectively, the deaths six, three and two.

Increases in rates in 1927 over those of 1926 occurred in eleven of the eighteen Middle Atlantic cities (table 2), Scranton having an increase of 10.4, Newark

TABLE 2.—*Death Rates of Cities in Middle Atlantic States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1927	1926	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Syracuse.....	1.5	1.6	2.7	22.9	12.9	16.6	17.4	17.7	31.1	55.4
Trenton.....	1.5	2.2	6.1	7.3	8.8	12.3	15.8	23.6	92.7*	89.7*
Rochester....	6.5	9.7	16.4	16.9	12.7	22.1	32.4	32.3	45.9	96.6
Erie.....	8.4	7.9	10.0	16.8	15.1	17.7	27.1	42.3	23.1†	
Reading.....	8.7	2.6	11.5	21.1	16.9	35.7	29.2	70.1	72.0	94.1
Utica.....	8.7	29.2	22.6							
Paterson.....	9.7	5.6	4.9	18.5	13.5	16.1	25.5	52.9	111.8	145.4
Elizabeth.....	10.6	12.8	8.3	19.2	19.3	14.8	51.7	42.4	60.5	79.3
Buffalo.....	10.7	5.3	5.8	24.0	27.3	23.0	18.4	24.8	53.3	60.9
Philadelphia.	10.8	13.5	15.9	16.7	22.7	24.6	34.1	50.0	100.6	119.4
Albany.....	10.9	4.9	7.6	12.8	10.4	20.0	31.6	26.9		
Jersey City...	11.2	10.1	13.6	18.4	21.0	23.2	32.6	57.9	85.4	108.6
New York City	12.0	8.1	10.8	14.0	21.8	28.0	40.0	58.0	85.8	134.4
Newark.....	13.3	4.6	9.3	9.7	14.6	23.3	30.1	46.7	79.1	110.4
Pittsburgh...	17.4	9.3	9.2	20.1	22.3	29.3	29.4	36.9	32.9	86.4
Scranton.....	18.1	7.7	13.4	12.3	22.1	23.4	....	....	77.8*†	48.6*
Yonkers.....	19.4	12.9	9.7	17.0	17.7	25.3				
Camden.....	24.8	26.0	21.0	20.3	23.2	38.8	48.9	52.6	98.8	194.0

* Diphtheria deaths from Chapin's Municipal Sanitation.
† Lacks data for 1895.

of 8.7, Pittsburgh of 8.1 and Albany of 6.1. Newark, Scranton, Yonkers and Camden had 1927 rates exceeding their respective averages for the five-year period 1920-1924. The Camden rate in 1927 of 24.8 is the highest in any large city in the country, though lower than the Camden rate in 1926. In four of our five summaries Camden has had one of the ten highest rates in the country. The health department of this city is taking active measures against diphtheria, preventive and curative, but perhaps its slogan "No diphtheria in 1930" is overoptimistic. The 1927 average for all the cities of this section (11.75) is a little higher than that of 1925 (11.46) and much higher than that of 1926 (9.16, table 13).

TABLE 3.—*Death Rates of Cities in South Atlantic States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1927	1926	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Norfolk.....	1.7	1.7	1.0	4.3	4.1	6.7	17.0			
Washington..	4.4	5.5	7.4	10.5	11.9	6.9	11.2	23.5	50.9	77.9
Wilmington..	4.8	9.7	20.2	11.6	15.2	18.0	27.8	50.9	84.9	83.8
Richmond....	5.7	1.1	16.1	9.8	5.8	7.0	9.8	24.4	17.6	59.7
Jacksonville..	7.2	5.8								
Atlanta.....	8.8	10.9	4.4	13.3	10.1	12.5	14.2	11.1	10.5	8.8
Baltimore....	11.3	7.3	6.0	11.4	13.5	14.2	16.1	33.0	68.1	70.0

Syracuse and Trenton have the lowest rates in this group in 1927, as they did also in 1926. Trenton has been within three of the head of the table for this group in all of these summaries, and Syracuse has headed the table three out of five times.

Auburn, N. Y., a city of 35,000 population, which had no diphtheria deaths in 1925 or 1926, continued to have a clear record through 1927.[3]

The South Atlantic city (table 3) having the lowest diphtheria rate in 1927 is, as usual, Norfolk. This city

1. The preceding articles were published in THE JOURNAL, Sept. 20, 1924, p. 918; April 25, 1925, p. 1269; April 3, 1926, p. 1005, and April 30, 1927, p. 1396.
2. Typhoid in the Large Cities of the United States in 1927, this issue, p. 1624.
3. New York State Department of Health: Health News 5: 13 (Jan. 23) 1928.

has headed the table for this group four out of five times, and the fifth time had second place (1926). Three cities have higher rates in 1927 than 1926, three lower rates, and one (Norfolk) the same rate in the two years. The 1927 average for the whole group (table 13) is not very different from the corresponding averages for 1925 and 1926.

TABLE 4.—*Death Rates of Cities in East North Central States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1927	1926	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Canton	6.9	1.8	5.6	17.5	12.8*					
Grand Rapids	1.9	3.2	4.5	19.6	13.5	20.0	21.6	17.2	32.4	99.2
Akron	5.2	3.0	2.4	10.4	18.9	27.8	21.8†			
Cincinnati	5.8	4.4	3.4	10.6	13.2	13.9	17.0	17.3	37.3	103.7
Dayton	6.6	7.3	2.9	9.4	9.3	22.1	13.3	17.2	27.4	82.9
Columbus	6.9	10.5	3.2	8.5	7.6	12.1	10.5	11.6	28.5	56.9
Flint	7.0	3.1	3.8	29.9	25.5	12.7	11.0	16.8	6.9	69.2
Indianapolis	7.7	6.0	6.7	11.7	21.4	13.5	13.3	15.9	36.4‡	97.3#
Toledo	8.2	8.5	9.0	22.4	14.1	25.4	20.4	56.8	34.6	89.3
Milwaukee	10.4	9.8	11.6	11.4	19.8	27.8	26.4	22.7	51.7	116.2
Youngstown	13.6	0.6	5.0	18.5	11.9	40.5	33.5	28.0	17.6	28.4¶
Chicago	14.1	7.3	8.0	17.5	31.2	37.9	27.0	31.9	69.7	117.3
Cleveland	18.8	19.9	14.7	14.7	21.0	21.6	20.8	42.6	45.3	95.7
Detroit	20.8	34.8	9.5	24.3	32.2	33.3	22.6	38.5	62.9	132.9

* Data for 1918, 1919 only.
† Data for 1909 only.
‡ Diphtheria deaths from Chapin's Municipal Sanitation.
# Data for 1891-1894.
¶ Data for 1893 and 1894 only.

The East North Central cities (table 4) in 1927 have as a group the highest diphtheria death rate of any group here considered (table 13). Their rates, considered broadly, have increased steadily from 1925 on. The 1927 group rate (13.28) is higher than the 1920-1924 average for six of the fourteen cities.

Detroit and Cleveland, which had the highest rates in this group in 1926, also are at the foot of the table in 1927, though both have lower rates in 1927 than they had in 1926, Detroit's having fallen from 34.8 to 20.8. The Chicago 1927 rate is double that of 1926, and Youngstown, which had one diphtheria death in 1926, had twenty-three in 1927.

TABLE 5.—*Death Rates of Cities in East South Central States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1927	1926	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Louisville	5.6	2.2	5.0	10.4	9.5	9.0	....	....	30.0*	49.6*†
Birmingham	7.4	2.8	5.8	5.3	7.2	8.3	6.2	13.4	16.5	26.3
Memphis	7.6	9.1	2.9	9.5	11.2	11.9	13.4	6.9	10.0	28.5
Nashville	12.3	20.4	6.6	8.0	8.9	7.3	10.3	13.9	30.1	28.4

* Diphtheria deaths from Chapin's Municipal Sanitation.
† Data for 1891-1894.

Five of the seven cities in the upper half of the table (i. e., with the lowest rates) in 1927 occupied a similar position in 1926. Five of the fourteen cities of this group had lower diphtheria rates in 1927 than in 1926, the most conspicuous reduction taking place in Detroit (mentioned above) and Columbus (from 10.5 to 6.9), which is, however, in 1927 much above its 1925 rate of 3.2. The Detroit authorities are continuing their immunization of children. They estimate that a third of the 153,000 preschool children and about half of the children between the ages of 6 and 15 have been immunized. The fluctuating industrial population of Detroit and the fact that it has a high birth rate give it an unusually large proportion of population in the age group most susceptible to diphtheria, a factor doubtless to be considered in connection with the great prevalence of this disease in Detroit in the last two years.

In the East South Central cities the group average has increased since 1925, the 1927 rate being 7.61, the 1926 rate 6.82, the 1925 rate 5.03 (table 13). The two cities with low rates in 1926 have had increases in 1927; the two cities with high rates in 1926 have had decreases. The order of rank, however, of the four remains the same (table 5).

With one exception every city in the group of West North Central cities (table 6) has a lower diphtheria death rate in 1927 than in 1926. The Minneapolis rate has fallen from 25.0 in 1925 and 17.3 in 1926 to 6.2 in 1927. Duluth, which has had either first or second place in this group in the two preceding summaries, has second place again this year. The range of rates for these cities in 1927 was 2.0-8.6, as against a 1926 range of 3.4-17.3.

TABLE 6.—*Death Rates of Cities in West North Central States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1927	1926	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
St. Paul	2.0	8.1	13.4	17.5	20.7	31.4	31.1	27.9	43.3	75.4
Duluth	2.7	3.5	0.0	6.0	10.2	8.8	38.2	29.1	7.6	49.5
Kansas City, Mo	2.9	4.3	7.3	14.4	22.8	15.7*				
Omaha	3.6	4.2	11.8	22.9	35.8	15.8	24.5	20.5	28.2	82.9
Des Moines	4.0	8.2	11.4	15.1	16.6	15.1	23.8†			
Minneapolis	6.2	17.3	25.0	13.4	19.9	28.3	21.4	44.6	34.0	55.0
Kansas City, Kan	6.8	3.4	4.3	9.8	23.1	12.4*				
St. Louis	8.6	13.1	11.2	16.1	24.4	23.7	19.4	43.3	62.9	67.7

* Data for 1912-1914.
† Data for 1909 only.

This group has the lowest average rate (5.59) of any group of cities in 1927. In 1925 its group rate was the highest in the country. It is one of the two groups to have a lower rate in 1927 than in 1926 (table 13).

Those two of the West South Central cities (table 7) that had diphtheria rates over 10 in 1926 have rates under 10 in 1927; four of the five with rates under 10 in 1926 have rates over 10 in 1927. El Paso, however, had the lowest rate in the group in both years.

The rate for all these cities taken together (table 13) is decidedly higher in 1927 (11.18) than in either 1925 (7.40) or 1926 (7.77). The largest increases between 1926 and 1927 are in New Orleans (from 6.4 to 15.1) and San Antonio (5.4 to 13.7).

TABLE 7.—*Death Rates of Cities in West South Central States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1927	1926	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
El Paso	1.8	1.8	8.6	20.0	17.6	20.2				
Houston	7.4	11.2	10.4	6.4	6.1	7.8	10.5	4.2*	2.4	1.8
Dallas	8.5	11.8	3.6	8.3	7.4	6.9	8.1	16.9	16.0	21.8
Tulsa	10.0	6.8	17.7	8.3†						
Oklahoma City	11.4									
San Antonio	13.7	5.4	4.5	7.7	8.7	6.7	7.6	17.1	20.6	4.4
New Orleans	15.1	6.4	6.8	6.5	11.6	19.6	10.2	11.5	17.1	51.3
Fort Worth	15.3	8.8	5.8	1.7‡	2.6#	2.6	2.8	5.4		

* Data for 1900, 1901, only.
† Data for 1923, 1924 only.
‡ Data for 1924 only.
# Lacks data for 1918 and 1919.

Of the ten large cities in the Mountain and Pacific states (table 8), six have had progressive declines in diphtheria rates since 1925, including four of the five with rates over 10 in that year. The Los Angeles and Salt Lake City rates have remained about constant.

The 1927 rates in Oakland and San Diego are considerably higher in 1927 than in 1925. Seattle has had the lowest rate in this group in all five of these summaries.

TABLE 8.—*Death Rates of Cities in Mountain and Pacific States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1927	1926	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Seattle	0.8	2.0	2.5	6.6	5.5	5.2	12.5	13.4*	27.2†	
Spokane	0.9	7.4	14.7	11.3	4.2	7.6	25.8	....	59.5†	18.1‡
Portland	3.6	7.6	13.5	11.3	6.0	12.3	12.2	20.2		
San Francisco	3.6	6.4	6.6	23.0	17.0	9.2	14.4	44.2	21.6	54.8
Tacoma	4.7	17.0	18.2	12.4	7.7#					
Los Angeles	7.0	6.2	6.2	14.4	7.1	7.5	15.3	25.4	35.8	46.0
Denver	7.9	10.5	15.7	23.2	6.7	10.2	20.8	29.6	27.3	130.2
San Diego	9.5	10.0	6.6	12.2	10.5	8.0	5.8	2.4		
Oakland	10.1	7.3	5.1	18.8	8.1	10.3	16.1	29.1		
Salt Lake City	14.0	15.1	13.7	12.5	14.5	15.1	34.2	46.0	14.8	53.7‡

* Data for 1901-1904; reported incorrectly in previous summaries.
† Diphtheria deaths from Chapin's Municipal Sanitation.
‡ Data for 1892-1894.
# Data for 1916-1919.

The Mountain and Pacific group of cities had a rate for 1927 (5.87) considerably lower than the rate in any other group, excepting the West North Central cities. These two groups are the only ones to have a lower rate in 1927 than in 1926 (table 13).

Only three of the ten cities with the highest diphtheria death rates in the country in 1927 (table 9) were also among the ten highest in 1926 (Camden, Detroit and Cleveland); the 1927 rates in these three cities,

TABLE 9.—*Ten Cities with Highest Diphtheria Death Rates for 1927*

Camden	24.8	Scranton	18.1
Detroit	20.8	Pittsburgh	17.4
Yonkers	19.4	Lowell	16.0
Lynn	19.1	New Bedford	15.6
Cleveland	18.8	Fort Worth	15.3

however, are lower than their 1926 rates. Of the ten highest cities, four belong to the Middle Atlantic group, three to the New England group.

Seven of the cities with the lowest diphtheria death rates in 1927 (table 10) were also among the ten lowest in 1926. For the first time in these summaries there are ten cities with rates under 2.

Since 1890 the number of cities with rates under 10 (table 11) has increased steadily year by year until the

TABLE 10.—*Ten Cities with Lowest Diphtheria Death Rates for 1927*

Cambridge	0.0	Trenton	1.5
Seattle	0.8	New Haven	1.6
Canton	0.9	Norfolk	1.7
Spokane	0.9	El Paso	1.8
Syracuse	1.5	Grand Rapids	1.9

present year; but in 1927 there are only fifty cities with rates under 10, as against fifty-eight such cities in 1926. In 1927, however, there are only two cities with rates over 20, whereas in previous years there have been at least four.

The total diphtheria death rate for all the large cities in the country (table 12) is notably higher in 1927 (10.43) than in either of the two preceding years. It is a little lower than the rate in 1924, though there were actually eighty-one more diphtheria deaths in these cities in 1927 than in 1924. From 1923 through 1926 the total rate for these cities had fallen regularly every year. The year 1927 marks the first break in the downward trend.

It is interesting to note that in nearly all European countries the incidence of diphtheria was higher than usual in the winter of 1927-1928. In Italy and Poland it has higher than at any time during the past five years.

TABLE 11.—*Number of Cities with Various Diphtheria Death Rates*

	40 and Over	20 and Over	10 and Over	Under 10
1890-1894	50	57	58	2
1895-1899	31	52	59	3
1900-1904	21	46	61	3
1905-1909	3	41	63	5
1910-1914	1	34	59	15
1915-1919	0	23	58	18
1920-1924	0	14	58	19
1925	0	4	28	50
1926	0	4	22	58
1927	0	2	31	50

Considering the diphtheria death rates in the eight geographic sections (table 13), the 1927 rates are higher than the 1926 rates in six of the eight groups, and also higher than the 1925 rates in five groups.

TABLE 12.—*Total Diphtheria Death Rate for Seventy-Eight Cities, 1923-1927* *

	Population	Diphtheria Deaths	Diphtheria Death Rate per 100,000
1923	29,970,602†	3,982†	13.25
1924	30,725,200	3,370	10.98
1925	32,010,310	3,096	9.65
1926	32,485,591	3,055	9.40
1927	33,093,423	3,451	10.43

* Jacksonville, Oklahoma City and Utica are omitted from this summary because data for the full period are not available.
† Lacks data for Fort Worth.

The three groups of cities along the Atlantic seaboard all have 1927 rates of about the same size as their 1925 rates, the rates for the intervening year being in every case considerably lower.

The cities in both the East North Central and the East South Central states show a consistent increase in

TABLE 13.—*Total Diphtheria Death Rate According to Geographic Divisions, 1925-1927*

		1927		1926		1925	
	1927 Population	Diphtheria Deaths	Diphtheria Death Rate per 100,000	Diphtheria Deaths	Diphtheria Death Rate per 100,000	Diphtheria Deaths	Diphtheria Death Rate per 100,000
New England	2,540,209	224	8.82	170	6.75	226	9.25
Middle Atlantic	11,780,633	1,386	11.75	1,067	9.16	1,345	11.46
South Atlantic	2,244,300	169	7.53	142	6.38	153*	7.46
East North Central	8,319,500	1,105	13.28	1,043	12.84	664	8.39
East South Central	854,300	65	7.61	57	6.82	39	5.03
West North Central	2,520,400	141	5.59	249	10.04	306	12.50
West South Central	1,698,946	190	11.18	115†	7.77	101†	7.40
Mountain and Pacific	3,508,435	206	5.87	247	7.20	274	8.19

* Lacks data for Jacksonville.
† Lacks data for Oklahoma City.

rate since 1925, the increase in both cases being larger between 1925 and 1926 than in the following year.

The West South Central cities' rates likewise have steadily increased since 1925, but with them the 1926-1927 increase was sharper than that of the previous year.

In the remaining two groups, as already mentioned, the rates have declined regularly since 1925. In the

Mountain and Pacific cities the decrease has been gradual, the total decrease 1925-1927 being 2.33. In the West North Central cities the decrease has been more striking, amounting in all to 6.91, of which 4.45 occurred between 1926 and 1927. Moreover, this West North Central group of cities had the highest rate of any geographic group in 1925 and the second highest in 1926, while in 1927 it has the lowest group rate for the year. This is also the lowest rate attained by any group in the period 1925-1927. The next lowest rate, both for 1927 and for the three-year period 1925-1927, is that of the Mountain and Pacific cities, the only other group showing a steady decline in the last three years.

The rate for the East North Central cities is the highest group rate in 1927, as it was also in 1926; in 1925 it was the fourth highest. The next highest 1927 rate occurs in the Middle Atlantic states, as it did also in 1925; in the intervening year the Middle Atlantic group rate was third highest.

TYPHOID IN THE LARGE CITIES OF THE UNITED STATES IN 1927

SIXTEENTH ANNUAL REPORT *

A special effort has been made during the past year to obtain data previously missing from our tables. Through the courtesy of the health officers of twenty-two cities, many of the gaps have been filled. The spaces still remaining are in most cases due to the fact that data are unavailable in the records of the health departments. The figures recently obtained have been incorporated in the general tables as well as added to the individual records of the cities.

Three cities appear in these summaries for the first time—Elizabeth, N. J., Erie, Pa., and Oklahoma City, Okla.—making a total of eighty-one cities, all of more than 100,000 population.

TABLE 1.—*Death Rates of Cities in New England States from Typhoid per Hundred Thousand Population*

	1927	1926	1921–1925	1916–1920	1911–1915	1906–1910
New Haven	0.0	2.2	4.4	6.8	18.2	30.8
Springfield	0.0	0.7	2.0	4.4	17.6	19.9
Providence	0.4	0.7	1.8	3.8	8.7	21.5
Bridgeport	0.6	0.6	2.2	4.8	5.0	10.3
Cambridge	0.8	4.9	4.3	2.5	4.0	9.8
Lynn	0.9	3.8	1.6	3.9	7.2	14.1
Boston	1.1	1.8	2.2	2.5	9.0	16.0
Hartford	1.8	1.2	2.5	6.0	15.0	19.0
Fall River	2.3	0.8	2.3	8.5	13.4	13.5
Lowell	2.6*	0.9	2.4	5.2	10.2	13.9
Worcester	3.1	0.5	2.3	3.5	5.0	11.8
New Bedford	3.3†	0.7	1.7	6.0	15.0	16.1

* Population figures furnished by the health department, 112,759.
† Population figures furnished by the health department, 121,460.

The New England cities (table 1) have continued remarkably free from typhoid, the combined rate for the twelve cities of this group being even lower in 1927 (1.26) than in 1926 (1.51) and continuing, as in 1926, to be the lowest rate for any group of cities in the country (table 13). The highest rate in this group in 1927 was 3.3, as against 4.9 in 1926.

* The preceding articles were published, May 31, 1913, p. 1702; May 9, 1914, p. 1473; April 15, 1915, p. 1322; April 22, 1916, p. 1305; March 17, 1917, p. 845; March 16, 1918, p. 777; April 5, 1919, p. 907; March 6, 1920, p. 672; March 26, 1921, p. 860; March 25, 1922, p. 890; March 10, 1923, p. 691; Feb. 2, 1924, p. 389; March 14, 1925, p. 813; March 27, 1926, p. 948, and April 9, 1927, p. 1148.

* The deaths from typhoid in each city are those reported to us by the respective health departments. The rates have been calculated on the basis of the midyear 1927 population as estimated by the U. S. Bureau of the Census. In the ten instances in which such estimates were not available, the midyear population figures were furnished by the health departments of the respective cities.

New Haven and Springfield, in 1927, for the first time in their histories, report no typhoid deaths. Cambridge, which had six typhoid deaths and the highest rate of any city in this group in 1926, had only one typhoid death in 1927. On the other hand, Worcester, which had only one typhoid death in 1926, had six in 1927; New Bedford also shows considerable excess over the previous five-year average. Of the seven

TABLE 2.—*Death Rates of Cities in Middle Atlantic States from Typhoid per Hundred Thousand Population*

	1927	1926	1921–1925	1916–1920	1911–1915	1906–1910
Paterson	0.0	1.4	3.3	4.1	9.1	19.3
Yonkers	0.0	0.0	1.7	4.8	5.0	10.3
Camden	0.7	4.6	5.9	4.9	4.5	4.0
Scranton	0.7	4.2	2.4	3.8	9.3	31.5
Elizabeth	0.9*	1.0	2.4	3.3	8.0	16.6
Jersey City	1.2	1.9	2.7	4.5	7.2	12.6
Rochester	1.2	4.0	2.1	2.9	9.6	12.8
New York	1.3	1.9	2.6	3.2	8.0	13.5
Newark	1.3	1.5	2.3	3.3	6.8	14.6
Philadelphia	1.4	1.9	2.2	4.9	11.2	41.7
Erie	1.5†	0.8	2.3	6.9	49.0	46.6
Syracuse	1.5	1.1	2.3	7.7	12.3	15.6
Trenton	1.5‡	2.2	8.2	8.6	22.3	28.1
Reading, Pa.	1.7	2.6	6.0	10.0	31.9	42.0
Pittsburgh	1.9	2.7	3.9	7.7	15.9	65.0
Buffalo	2.4	5.0	3.9	8.1	15.4	22.8
Utica	2.9	0.0	3.9§	...	....	....
Albany	3.3	0.0	5.6	8.0	18.6	17.4

* Population figures furnished by the health department, 113,033.
† Population figures furnished by the health department, 131,000.
‡ The health department states that the diagnosis was doubtful in the two deaths that occurred.
§ Data for 1925 only.

cities with 1926 rates under 1, three (Springfield, Providence and Bridgeport) had also 1927 rates under 1. No city had a rate under 1 for all of the three last years.

The single typhoid death in Providence was of a child, aged 2 months, whose father had had typhoid two years before; the mother and two other children were carriers.

In the Middle Atlantic states (table 2), two cities (Paterson and Yonkers) report no typhoid deaths in 1927. It is a proud record for Yonkers that this is the second consecutive year without a typhoid death and the fourth such year in its history, the typhoid record being completely clear also in 1920 and 1922. Yonkers is the only large city in the country to have had a rate of 0.0 more than once (table 10). On the other hand, the two other cities of this group with no typhoid deaths in 1926 (Albany and Utica) have the highest rates in the whole group in 1927. Camden, which has had the highest or next to the highest rate of the group every year since 1922 and the third from the highest in 1921, has the second lowest rate in 1927. Scranton and Rochester also have rates materially lower in 1927 than in 1926. The New York, Pittsburgh and Philadelphia rates have continued to fall, these three cities having in 1927 the lowest typhoid rates in their history. Buffalo, while having the third from the highest rate in this group in 1927, has halved its rate of 1926.

The two newcomers in this group, Elizabeth and Erie, are both well up to the average of the other cities. The serious epidemic in Erie in 1911, although conspicuously affecting the five-year average 1911-1915 and presumably swelling the number of carriers in that community, does not seem to have had any very prolonged effect on the typhoid mortality.

In 1926 the highest rate in the group was 5.0; in 1927 it was 3.3. The average for all the cities of this section was 1.41 in 1927, as against 2.09 in 1926 (table 13).

Among the South Atlantic cities (table 3), the most striking record is made by Richmond, which had not a single typhoid death in 1927. Norfolk, which had a similar clear record in 1923, continues to show a consistently low rate. Baltimore and Washington have nearly as low rates as Boston and New York, an epidemiologic fact of considerable significance. As in 1926, Atlanta and Jacksonville show decidedly higher

TABLE 3.—*Death Rates of Cities in South Atlantic States from Typhoid per Hundred Thousand Population*

	1927	1926	1921–1925	1916–1920	1911–1915	1906–1910
Richmond	0.0	2.6	5.7	9.7	15.7	34.0
Norfolk	1.1	1.7	2.8	8.8	21.7	42.1
Baltimore	1.8	4.7	4.0	11.8	23.7	35.1
Washington	1.8	2.5	5.4	9.5	17.2	36.7
Wilmington	3.2	2.4	4.7	25.8*	23.2†	33.0
Jacksonville	7.2	8.8	....	....	....	....
Atlanta	14.0	17.2	14.5	14.2	31.4	58.4

* 1916 only.
† Lacks 1913.

rates than the other cities in this group. The Atlanta typhoid death rate in 1927 ranks as one of the five highest among all the large cities of the country, as it has done every year since 1921. The rate for this group as a whole is much lower in 1927 (3.39) than in 1926 (5.38, table 13).

In 1927, as in 1926, one city in the East North Central states had no typhoid deaths (table 4). This city in 1927 was Canton, which the year before had the third highest rate in this group of eighteen cities; Youngstown, the city with no typhoid deaths in 1926, has in 1927 the fourth highest rate in the group. Indianapolis has a considerably lower rate in 1927 (1.3) than in 1926 (5.4). The highest rate in this group in 1927 is 3.9, as against 5.4 in 1926. The combined rate for this section is slightly lower in 1927 (1.31) than

TABLE 4.—*Death Rates of Cities in East North Central States from Typhoid per Hundred Thousand Population*

	1927	1926	1921–1925	1916–1920	1911–1915	1906–1910
Canton	0.0	3.6	3.3	7.0*	....	....
Chicago	0.7	0.8	1.4	2.4	8.2	15.8
Milwaukee	0.9	1.7	1.6	6.5	13.6	27.0
Cleveland	1.0	1.4	2.0	4.0	10.0	15.7
Detroit	1.2	2.2	4.1	8.1	15.4	22.8
Indianapolis	1.3	5.4	4.6	10.3	20.5	30.4
Dayton	1.7	2.3	3.3	9.3	14.8	22.5
Grand Rapids	1.9	1.3	1.9	9.1	25.5	29.7
Columbus	2.0	1.7	3.5	7.1	15.8	40.0
Flint	2.1	0.7	4.6	22.7	18.8	46.9
Youngstown	2.4	0.0	7.2	19.2	29.5	35.1
Akron	2.8†	1.5	2.4	10.6	21.0	27.7‡
Toledo	2.9	4.7	5.8	10.6	31.4	37.5
Cincinnati	3.9	2.7	3.2	3.4	7.8	30.1

* Lacks data for 1916, 1917.
† Population figures furnished by the health department, 210,000.
‡ Data for 1909 and 1910 only.

in 1926 (1.69, table 13) and is about the same as the rate for the New England cities (1.26), which is the lowest sectional rate in the country.

The very low rate of Chicago for the last two years (0.7, 0.8) is noteworthy, being about half the rates for New York City (1.3) and for Philadelphia (1.4).

The East South Central cities (table 5) continue to have the outstanding high typhoid rates of the country. These cities and their closest competitors, the West South Central cities, had about the same rates in 1925 (14.30, 13.27), but in 1927 the West South Central average was 6.71 as against the East South Central rate of 10.07 (table 13). The latter rate is nevertheless a great improvement over the 1926 average of 14.47.

In 1927 Louisville, with its rate of 3.1, stands quite by itself, the three other cities of the group having rates well over 10. Only one other large city in the United States (Atlanta) had such a rate in 1927.

TABLE 5.—*Death Rates of Cities in East South Central States from Typhoid per Hundred Thousand Population*

	1927	1926	1921–1925	1916–1920	1911–1915	1906–1910
Louisville	3.1	6.7	4.9	9.7	19.7	52.7
Birmingham	12.9	8.5	10.8	31.5	41.3	41.7
Memphis	14.5	19.2	18.9*	27.7	42.5	35.3
Nashville	16.0	35.0	17.8	20.7	40.2	61.2

* The Memphis typhoid death rate for 1924 was erroneously stated in the summary for that year. In the avreage for 1921-1925 this error has been carried along up to the present. The old five-year average is here corrected.

Birmingham had rates under 10 from 1923 to 1926, inclusive, and Memphis had rates under 10 from 1920 through 1922; but only once since 1913 has Nashville had a rate under 10.

In the West North Central states (table 6), for the first time in these summaries, one city (Kansas City, Kan.) reports no typhoid deaths. The combined rate

TABLE 6.—*Death Rates of Cities in West North Central States from Typhoid per Hundred Thousand Population*

	1927	1926	1921–1925	1916–1920	1911–1915	1906–1910
Kansas City, Kan.	0.0	4.3	5.0	9.4	31.1	74.5*
Minneapolis	0.7	1.4	1.9	5.0	10.6	32.1
Omaha	0.9	1.8	3.3	5.7	14.9	40.7
St. Louis	1.9	2.3	3.9	6.5	12.1	14.7
Duluth	2.7	0.8	1.7	4.4	19.8	45.5
St. Paul	2.8	1.2	3.4	3.1	9.2	12.8
Kansas City, Mo.	2.9	3.5	5.7	10.6	16.2	35.6
Des Moines	3.3	2.7	2.2	6.4	15.9	23.7

* Lacks 1906, 1907.

for the cities of this section (table 13) in 1927 (1.86) is lower than in 1926 (2.22), and the highest rate for an individual city reported in 1927 (3.3) is lower than the corresponding rate in 1926 (4.3). The range in 1927 of 0.0-3.3 is exactly the same range as in the New England and Middle Atlantic groups.

In the West South Central cities there is a notable improvement in the typhoid death rate in 1927, the combined rate for the group falling from 13.27 in 1925 and 11.69 in 1926 to 6.71 in 1927 (table 13). Every city in the group had a lower rate in 1927 than in 1926

TABLE 7.—*Death Rates of Cities in West South Central States from Typhoid per Hundred Thousand Population*

	1927	1926	1921–1925	1916–1920	1911–1915	1906–1910
Fort Worth	4.3	10.7	6.1	16.3*	11.9	27.8
Houston	5.6†	6.0	7.6	14.2	38.1	49.5‡
San Antonio	5.7	7.8	9.3	23.3	29.5	35.9
Oklahoma City	6.4§	....	....	....	....	....
Dallas	6.6	8.9	11.2	17.2	....	....
El Paso	7.9	9.2	10.8	30.7	42.8	....
New Orleans	8.0	18.6	11.6	17.5	20.9	35.6
Tulsa	8.7	14.3	16.2‡	....	....	....

* Lacks data for 1918 and 1919.
† Population figures furnished by the health department, 284,446.
‡ Data for 1910 only.
§ Population figures furnished by the health department, 140,000.
‡ Lacks data for 1921 and 1922.

(table 7). The most striking decreases since 1926 have been in New Orleans (from 18.6 to 8.0), Fort Worth (10.7 to 4.3) and Tulsa (14.3 to 8.7). Seven of the eight cities in this group fall into the second rank (table 9), having rates between 5 and 10, and the eighth city (Fort Worth) has about the same rate (4.3).

The cities of the Mountain and Pacific states have as a whole a slightly lower rate in 1927 (1.74) than in

1926 (1.98). The 1927 range of rates (table 8) was 0.9-2.8, as against 0.7-6.5 in 1926. The rate for Spokane dropped from 6.5 (seven deaths) in 1926 to 0.9 (one death) in 1927. In most of the cities in this group the 1926 and 1927 rates are running well below those of the preceding five-year average.

TABLE 8.—*Death Rates of Cities in Mountain and Pacific States from Typhoid per Hundred Thousand Population*

	1927	1926	1921–1925	1916–1920	1911–1915	1906–1910
San Diego	0.9*	0.9	1.6	7.9	17.0	10.8
Spokane	0.9	6.5	4.4	4.9	17.1	50.3
Los Angeles	1.0†	1.1	3.0	3.6	10.7	19.0
San Francisco	1.7	2.5	2.8	4.6	13.6	27.3
Portland, Ore.	2.1‡	2.5	3.5	4.5	10.8	23.2
Oakland	2.2	0.8	2.0	3.8	8.7	21.5
Salt Lake City	2.2	0.7	6.0	9.3	13.2	41.1
Seattle	2.7	2.3	2.6	2.9	5.7	25.2
Denver	2.8	3.5	5.1	5.8	12.0	37.5
Tacoma	2.8	3.8	3.7	2.9	10.4	19.0

* Population figures furnished by the health department, 115,300.
† Population figures furnished by the health department, 1,200,000.
‡ Population figures furnished by the health department, 332,835.

Seven of the eighty-one cities included in this summary had no typhoid deaths in 1927 (table 9). This

TABLE 9.—*Death Rates from Typhoid in 1927*

Honor Roll (from 0.0 to 2.0 Deaths per Hundred Thousand)			
CANTON	0.0	Boston	1.1
KANSAS CITY, KAN.	0.0	Norfolk	1.1
NEW HAVEN	0.0	Detroit	1.2
PATERSON	0.0	Jersey City	1.2
RICHMOND	0.0	Rochester	1.2
SPRINGFIELD	0.0	Indianapolis	1.3
YONKERS	0.0	New York City	1.3
Providence	0.4	Newark	1.3
Bridgeport	0.6	Philadelphia	1.4
Camden	0.7	Erie	1.5
Chicago	0.7	Syracuse	1.5
Minneapolis	0.7	Trenton	1.5
Scranton	0.7	Dayton	1.7
Cambridge	0.8	Reading	1.7
Elizabeth	0.9	San Francisco	1.7
Lynn	0.9	Baltimore	1.8
Milwaukee	0.9	Hartford	1.8
Omaha	0.9	Washington	1.8
San Diego	0.9	Grand Rapids	1.9
Spokane	0.9	Pittsburgh	1.9
Cleveland	1.0	St. Louis	1.9
Los Angeles	1.0		
First Rank (from 2.0 to 5.0)			
Columbus	2.0	St. Paul	2.8
Flint	2.1	Tacoma	2.8
Portland	2.1	Kansas City, Mo.	2.9
Oakland	2.2	Toledo	2.9
Salt Lake City	2.2	Utica	2.9
Fall River	2.3	Louisville	3.1
Buffalo	2.4	Worcester	3.1
Youngstown	2.4	Wilmington	3.2
Lowell	2.6	Albany	3.3
Duluth	2.7	Des Moines	3.3
Seattle	2.7	New Bedford	3.3
Akron	2.8	Cincinnati	3.9
Denver	2.8	Fort Worth	4.3
Second Rank (from 5.0 to 10.0)			
Houston	5.6	Jacksonville	7.2
San Antonio	5.7	El Paso	7.9
Oklahoma City	6.4	New Orleans	8.0
Dallas	6.6	Tulsa	8.7
Third Rank (above 10.0)			
Birmingham	12.9	Memphis	14.5
Atlanta	14.0	Nashville	16.0

is the largest number in a single year since these studies were started, a total of twenty-one such clear records having been reported from 1913 to 1927 (table 10). It does not approach, however, the condition in Great Britain, where (in 1924), out of forty-eight large cities, fifteen had no typhoid deaths during the year.[1] Thirteen of our eighty-one cities had 1927 typhoid rates of more than zero and under 1; twenty-three had rates between 1 and 2, making a total of forty-three cities on the Honor Roll (table 9). There are eight cities of second rank (all but one belonging to the West South Central group) and four of third rank, whereas in 1926 there were sixteen cities in these two ranks.

TABLE 10.—*Occurrence of 0.0 Typhoid Death Rates in the Large Cities of the United States*

1919	Spokane	1926	Albany
1920	Yonkers		Utica
1922	New Bedford		Yonkers
	Providence		Youngstown
	Yonkers	1927	Canton
1923	Norfolk		Kansas City, Kan.
1924	Fall River		New Haven
	Hartford		Paterson
1925	Lowell		Richmond
	Scranton		Springfield
			Yonkers

The total typhoid rate for seventy-four of the large cities for 1927 (table 11) is under 2 per hundred thousand of population, the lowest point yet reached. The rates since 1910 show a steady decline from 20.58 to 1.96, broken only by the very slight rises (the greatest increase of rate being 0.34) in the years 1913, 1921 and 1925. From the data of table 11, table 12 has been computed, which shows that had the 1910 typhoid death rate prevailed in these seventy-four cities up through 1927, there would have been 66,292 more deaths from typhoid than actually occurred.

TABLE 11.—*Total Typhoid Rate for Seventy-Four Cities, 1910-1927* *

	Population	Typhoid Deaths	Typhoid Death Rate per 100,000
1910	22,286,000	4,586	20.58
1911	22,916,700	3,883	16.94
1912	23,535,450	3,077	13.07
1913	24,151,936	3,222	13.34
1914	24,776,777	2,744	11.07
1915	25,392,422	2,373	9.34
1916	25,928,745	2,154	8.31
1917	26,528,213	1,963	7.40
1918	26,737,190†	1,796†	6.72
1919	27,373,579†	1,141†	4.17
1920	28,182,528	1,074	3.81
1921	28,509,732	1,130	3.96
1922	28,947,007	955	3.30
1923	29,580,000	936	3.16
1924	30,155,014	937	3.11
1925	30,938,501	1,067	3.45
1926	31,667,424	895	2.83
1927	32,492,123	638	1.96

* The following seven cities are omitted because data for the full period are not available: Canton, Dallas, Jacksonville, Oklahoma City, Tulsa, Utica, Wilmington.
† Lacks data for Fort Worth.

TABLE 12.—*Typhoid Deaths That Would Have Occurred 1910-1927 in the Seventy-Four Cities of Table 10 if 1910 Rate Had Continued to Prevail*

Year	Typhoid Deaths at 1910 Rate	Exceeding Actual Number of Typhoid Deaths by
1910	4,586	0
1911	4,716	833
1912	4,844	1,767
1913	4,970	1,748
1914	5,099	2,355
1915	5,227	2,854
1916	5,336	3,182
1917	5,468	3,505
1918	5,502	3,706
1919	5,633	4,492
1920	5,800	4,726
1921	5,867	4,737
1922	5,957	5,002
1923	6,087	5,151
1924	6,201	5,264
1925	6,367	5,300
1926	6,517	5,622
1927	6,686	6,048
	100,863	66,292

1. Typhoid in Certain Large Cities of Europe in 1924, J. A. M. A. 85: 1890 (Dec. 12) 1925.

Comparing the typhoid rates for the last three years in the different geographic sections (table 13), there has been a progressive decline in every group; 1925, however, was a "typhoid year." In 1927, five of the eight groups have typhoid death rates under 2. The other three groups have rates ranging from 3.39 to 10.07; the latter are all Southern groups.

TABLE 13.—*Total Typhoid Death Rate According to Geographic Divisions*

		1927		1926		1925	
	Population 1927	Typhoid Deaths	Typhoid Death Rate per 100,000	Typhoid Deaths	Typhoid Death Rate per 100,000	Typhoid Deaths	Typhoid Death Rate per 100,000
New England.....	2,540,209	32	1.26	38	1.51	58	2.37
Middle Atlantic....	11,789,633	166	1.41	243	2.09	349	2.97
South Atlantic.....	2,244,300	76	3.39	120	5.38	117*	5.71*
E. North Central..	8,319,500	109	1.31	137	1.69	174	2.19
E. South Central..	851,300	86	10.07	121	14.47	111	14.30
W. North Central..	2,520,400	47	1.86	55	2.22	81	3.31
W. South Central..	1,698,946	114	6.71	173†	11.69†	180†	13.27†
Mountain and Pacific.....	3,508,435	61	1.74	68	1.98	73	2.19

* Lacks data for Jacksonville.
† Lacks data for Oklahoma City.

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

LIPIODOL-LAFAY.—Iodized Poppy-seed Oil 40 per cent.—An iodine addition product of poppy-seed oil containing 39 to 41 per cent of iodine (0.54 Gm. of iodine per cc.) in organic combination.

Actions and Uses.—Lipiodol-Lafay, on account of its high molecular weight, is used as a contrast medium in myelography and pyelography, for detecting urethral strictures, in the spinal column for detecting tumors, and in other conditions for which roentgenologic exploration is desired.

Dosage.—From 1 cc. to 5 cc. (15 to 75 minims) or more according to the uses to which it is to be put.

Manufactured by Andre Guerbet & Cie., Paris (E. Fougera & Co., New York, distributor). No U. S. patent. U. S. trademark 196,499.

Ampoules Lipiodol-Lafay, 1 cc.
Ampoules Lipiodol-Lafay, 2 cc.
Ampoules Lipiodol-Lafay, 3 cc.
Ampoules Lipiodol-Lafay, 5 cc.

Lipiodol-Lafay is a thick, viscous oily liquid, having an alliaceous odor and an oleaginous taste, insoluble in water. On exposure to air and sunlight it decomposes, turning a dark brown color. Specific gravity at 20 C., from 1.340 to 1.350.

Boil 0.5 cc. of lipiodol-Lafay and 10 cc. of alcoholic solution of potassium hydroxide (1 in 10), in a porcelain dish for about five minutes, evaporate the liquid on a water bath and ignite the residue. Dissolve the residue in 10 cc. of water, filter the solution, add 5 cc. of hydrochloric acid to the filtrate, then add chloroform and a few drops of chlorine water and agitate: the chloroform solution is violet. Dissolve 1 cc. of lipiodol-Lafay in 10 cc. of choloroform, add a few drops of phenolphthalein solution and 0.3 cc. (1 drop) of tenth-normal sodium hydroxide solution: the liquid becomes red (*limit of acidity*). Mix 10 cc. of lipiodol-Lafay with 50 cc. of petroleum benzin: a transparent liquid results.

Boil about 1 cc. of lipiodol-Lafay with 10 cc. of nitric acid and 0.5 Gm. of silver nitrate, cool, add 25 cc. of water, collect the precipitate formed on a filter paper, wash free from the excess of silver nitrate; puncture the filter, collect its contents in a glass stoppered flask, treat with 50 cc. of stronger ammonia water, agitate thoroughly and allow to stand for one hour. Filter off the insoluble silver iodide; treat the filtrate with 15 cc. potassium iodide solution, and remove the excess of ammonia by evaporation on a steam bath: no opalescence results (*absence of chlorine compounds*).

Ignite about 1 Gm. accurately weighed: the residue does not exceed 0.01 per cent. Transfer about 0.35 Gm. accurately weighed, to a bomb tube; determine the iodine content by the Carius method: the amount of iodine found is not less than 39 per cent nor more than 41 per cent.

LIPIODOL RADIOLOGIQUE DESCENDANT.—Iodized Poppy-seed Oil 35 per cent.—An iodine addition product of poppy-seed oil containing 34 to 36 per cent of iodine (0.45 Gm. of iodine per cc.) in organic combination.

Actions and Uses.—In subarachnoid injection for roentgenray examination, lipiodol radiologique descendant is used for the recognition of intradural tumors.

Dosage.—In the normal subject, 2 cc.

Manufactured by Andre Guerbet & Cie., Paris (E. Fougera & Co., New York, distributor). No U. S. patent. U. S. trademark 196,499.

Lipiodol radiologique descendant is a yellow, oily liquid, having an alliaceous odor and an oleaginous taste, insoluble in water. On exposure to air and sunlight it decomposes, turning a dark brown color. Specific gravity at 20 C., from 1.270 to 1.280.

Lipiodol radiologique descendant conforms to the tests for identity and purity, ash and assay as described under lipiodol-Lafay, except that the iodine content found is not less than 34 per cent nor more than 36 per cent.

LIPIODOL RADIOLOGIQUE ASCENDANT.—Iodized Poppy-seed Oil 10 per cent.—An iodine addition product of poppy-seed oil containing 9.8 to 11.2 per cent of iodine (0.11 Gm. of iodine per cc.) in organic combination.

Actions and Uses.—In subarachnoid injection for roentgenray examination, lipiodol radiologique ascendant is used for recognition of intradural tumors when it is desired to employ a contrast medium of lesser density than that of the spinal fluid.

Dosage.—From 1 to 2 cc., previously brought, with the syringe, to a temperature of 40 C.

Manufactured by Andre Guerbet & Cie., Paris (E. Fougera & Co., New York, distributor). No U. S. patent. U. S. trademark 196,499.

Lipiodol radiologique ascendant is a yellow, oily liquid, having an alliaceous odor and an oleaginous taste, insoluble in water. On exposure to air and sunlight it decomposes, turning a brown color. Specific gravity at 20 C., from 0.99 to 1.00.

Lipiodol radiologique ascendant conforms to the tests for identity and purity, ash and assay as described under lipiodol-Lafay, except that the iodine content found is not less than 9.8 per cent nor more than 11.2 per cent.

MEAD'S POWDERED BOILABLE PROTEIN MILK.—A modified milk preparation having a relatively high protein content and a relatively low carbohydrate content. Each 100 Gm. contains approximately protein, 39 Gm.; butter fat, 27 Gm.; lactose, 24 Gm.; free lactic acid, 2 Gm.; ash, 6 Gm.; and moisture, 2 Gm.

Actions and Uses.—When suitably mixed with water, powdered boilable protein milk is useful for correcting intestinal disorders of infants and children. The nutritive value of 500 Gm. of the dry powder corresponds approximately to 2,535 calories.

Dosage.—For the majority of conditions powdered boilable protein milk should be given in small quantities according to the age and condition of the patient and, in cases of diarrhea, after a period of starvation of from twelve to twenty-four hours. Suitable carbohydrate may be gradually added to the feeding, as indicated by the clinical conditions.

To prepare the normal dilution of powdered boilable protein milk for use, 1 ounce (4 level tablespoonfuls) is placed on the surface of 11 fluidounces of cold, previously boiled, water and then beaten with an egg beater. The mixture may be heated to boiling and, while stirring, boiled for five to ten minutes. Carbohydrates, if prescribed, can be added at the time the powdered boilable protein milk is added to the water. One hundred cc. of the normal dilution, without additional carbohydrate, contains approximately 3.16 Gm. of protein, 2 Gm of lactose, 2.25 Gm. of butter fat, and 0.17 Gm. of free lactic acid; p_H 5.2. The nutritive value of 500 Gm. corresponds approximately to 230 calories.

Manufactured by Mead Johnson and Company, Evansville, Ind. No U. S. patent or trademark.

ANTIRABIC VACCINE (See New and Nonofficial Remedies, 1928, p. 363).

Pasteur Institute of St. Louis, St. Louis.

Antirabic Virus (Semple).—An antirabic vaccine prepared according to the general method of David Semple (phenol killed). It consists of a sterile suspension of the brain tissue of rabbits moribund from the injection of a virulent fixed strain of rabies. The virus is killed by the use of phenol and by incubation at 37.5 C. for twenty-four hours. Marketed in packages of fourteen doses, each dose consisting of 2 cc., contained in an ampule. All the doses are of the same potency; one dose is to be given daily over a period of fourteen days.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET - - - CHICAGO, ILL.

Cable Address - - - - "Medic, Chicago"

Subscription price - - - - - - Five dollars per annum in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent. Such notice should mention all journals received from this office. Important information regarding contributions will be found on second advertising page following reading matter.

SATURDAY, MAY 19, 1928

THE ORIGIN OF URINARY PROTEIN

As normal urine contains only traces of proteins, the occurrence of the latter in the secretion is looked on as one of the most important symptoms of renal disorder. It is asserted that the albuminous substances eliminated under abnormal conditions are, for the most part at least, derived from the blood. Thus it would appear that albuminuria represents a condition in which the kidneys become permeable to the plasma proteins that ordinarily are utterly unable to pass the renal barrier. It has been established, further, that during periods of such alleged kidney disability the foreign proteins that are present in the food intake do not pass unchanged into the urine. The older idea that the proteins of egg and muscle ingested during severe albuminuria may serve directly to augment the protein output in the urine has finally been disposed of.

Nevertheless it happens occasionally that proteins other than serum albumin, serum globulin or fibrinogen are eliminated by the kidneys. Sometimes proteoses are excreted. The elimination of Bence-Jones protein, particularly in cases of disease of the bone marrow, is another anomaly of kidney function. When soluble foreign proteins are introduced into the circulation, they tend to be removed through renal action.

Recent studies by Andrews [1] and his collaborators in the surgical department of the University of Illinois have implicated proteins other than those of the blood as potential sources of urinary proteins. They [2] have demonstrated, first of all, that blood-free liver protein introduced into the circulation of experimental animals is passed as such into the urine. Again, it has been reported in THE JOURNAL [1] that some of the albuminurias of experimental uremia are characterized by the excretion of liver protein, identified by suitable precipitin tests, rather than the expected blood proteins. Such observations shift the possibility of the origin of albuminurias to organs other than the kidney. If these structures, owing to some abnormal condition, discharge their own protein into the blood stream, the tissue protein would naturally be eliminated like any foreign constituent. Thus it is suggested that in nephritis a disturbance of the mineral balance causes cellular disintegration to such an extent that protein leaks from the great parenchymatous organs into the blood and is excreted, as it has long been known that nonblood proteins (egg albumin and foreign serums) pass through the kidneys. It has also been shown that the prolonged passage of foreign protein through the kidneys renders them permeable to blood proteins. These phenomena may account for the fact that, in the later stages of nephritis, enormous amounts of serum proteins are passed. The relegation of the source of urinary proteins in some cases to heretofore unexpected sources implicates the tissues in a new way in the genesis of some of the nephritides.

1. Andrews, Edmund: Water Metabolism, Arch. Int. Med. **36**: 82 (Jan.) 1926. Andrews, Edmund; and Thomas, W. A.: The Origin of Urinary Proteins, J. A. M. A. **90**: 539 (Feb. 18) 1928.
2. MacDonald, R. F.; Thomas, W. A., and Andrews, Edmund: Preparation of Blood-Free Tissue Proteins, Proc. Soc. Exper. Biol. & Med. **25**: 246 (Jan.) 1928.

POSTURE AND KIDNEY FUNCTION

It has long been known that the volume of urine passed is greater in the recumbent than in the standing position.[1] One cannot make any dependable deductions from this fact with reference to the effect of posture on the renal elimination of substances other than water. The kidney function involves a complex mechanism in which filtration in the glomeruli and reabsorption in the tubules interact to modify the final product, the urine eliminated. In illustration of this statement are the conclusions of White, Rosen, Fischer and Wood [2] that urea, sulphate and phosphate are in part filtered through the glomeruli and in part secreted by the tubules; that the rate of filtration across a glomerular membrane is determined not only by the mean glomerular capillary pressure but also by the extent to which the application of pressure is pulsatile; that the greater urine flow in the recumbent position is due in part to an increase in the number of glomerular capillaries exhibiting an active circulation, and in part to an increased rate of filtration by individual glomeruli. It need not be assumed that this is the last word on the subject. The pronouncement is merely quoted to indicate the complexities that need consideration.

The number of "filtering units" in active operation in the kidneys is not an index of the permeability of the vessels involved under all conditions. In so-called functional, cyclic or orthostatic albuminuria the excretion of protein is unquestionably related to posture. Mendel and Hooker [3] demonstrated, long ago, its independence of changes in diet or muscular work. Usually there is decreased urine volume during the standing

1. Edel, P.: München. med. Wchnschr. **2**: 1833, 1901.
2. White, H. L.; Rosen, I. T.; Fischer, S. S., and Wood, G. H.: The Influence of Posture on Renal Activity, Am. J. Physiol. **78**: 185 (Sept.) 1926.
3. Mendel, L. B., and Hooker, D. R.: J. Exper. Med. **5**: 647, 1901.

posture coincident with the maximum albuminuria and, conversely, an increased volume on the assuming of a recumbent posture when albumin has disappeared from the urine. Such considerations make it desirable to ascertain to what extent, if any, variations in renal activity incident to changes in posture, such as standing and lying down, may affect the well known tests of renal function that involve the rate of elimination of foreign substances from the body.

A recent study in the Physiology Laboratory of the University of Chicago by Cordero and Friedman [4] confirms the effect of recumbency in increasing the volume of urine output. Apparently the elimination of phenolsulphonphthalein in normal persons is greater in the recumbent posture than during standing. The difference observed, though definite, was not marked; but, according to Cordero and Friedman, it should be taken into account in making phenolsulphonphthalein tests in borderline cases. There is a possibility that the difference might be greater in cardiorenal disorders. At any rate, it seems probable that if renal function tests are made with patients in a recumbent position an added variable will be excluded. Incidentally, frequent injections of phenolsulphonphthalein in test doses over a period of many months in the persons experimented on were without evidence of even the slightest untoward effect, thus giving renewed assurance of the harmlessness of a dye that has proved to be singularly useful in diagnostic procedures.

INSENSIBLE PERSPIRATION AND METABOLISM

It has been 300 years since the publication, in 1614, of the classic observations of Sanctorius on what is still commonly designated as "insensible perspiration," the usually invisible losses of the body now known to be carbon dioxide and water. The science of nutrition was inaugurated with the demonstration that there are considerable losses in body weight during periods in which neither urine nor feces are passed from the body. Thus it became possible to attempt an accounting of the balance of matter in the organism, when the insensible as well as the visible losses could be estimated.

The invisible gaseous emanation from the body has a special significance in that, through the vaporization of water, it serves as a mode of eliminating heat. As heat is a manifestation of metabolism, it is obvious that the insensible perspiration plays some part in the calorimetric functions of the organism. From a quantitative standpoint the expression "insensible perspiration" is almost synonymous with "water vaporized from the body." Numerous observations demonstrate that the size of the body, its activity, and even the ingestion of food modify the insensible loss. The conclusion that there is a general tendency for the insensible loss to be greater with larger weights and with increasing activities, coupled with the fact of the well known relationship between body size, body activity and metabolism, suggested to Benedict the possibility of a relationship between the insensible loss and the metabolism. Comparative measurements made by Benedict and Root [1] of the Carnegie Institution of Washington in its Boston Nutrition Laboratory on insensible loss and basal metabolism in the same persons gave striking results. Patients with disturbances of the thyroid, whose metabolism is high, were found to have a large insensible loss, and patients with diabetes, whose metabolism is low, were found to have a small loss. The relationship between the insensible perspiration and the metabolism of these two types of pathologic cases was such that, when the data for the hourly insensible perspiration were plotted with reference to the twenty-four hour heat production, a straight line indicated the general trend of the metabolism.

In the Department of Pediatrics at the Cornell University Medical College, New York, Levine and Wilson [2] have demonstrated, further, that the relation between heat production and insensible perspiration is the same in children as in adults. Under standard conditions of temperature, humidity and clothing, both adults and children lose an average of 24 per cent of their calories in vaporization of water through the skin and lungs. This proportion is maintained in sleep, during activity (insufficient to cause sweating), following the ingestion of food, in disease and with fever, provided the body temperature does not change during the observation. The New York investigators [3] have now extended their studies on the elimination of water through the skin and respiratory passages to include the conditions in infancy. They have found that their normal and marantic infants lost alike an average of 27 and 26 per cent of the total amount of heat produced in vaporization, respectively. The extreme average figures for both groups were 23 and 30 per cent. Only occasionally did the records for individual observations exceed this range. Hence they conclude that the close relation between insensible perspiration and metabolism previously found to exist in adults and children may be extended to infants, despite the notable differences in metabolic rates. Under ordinary conditions the human subject from early infancy to old age dissipates approximately 25 per cent of the total amount of heat produced in vaporization of water through the skin and lungs, and the remaining 75 per cent by way of radiation and conduction. A practical advantage will probably arise from this fixity in the avenues of heat loss from the body. It has already been found

4. Cordero, N., and Friedman, M. H.: Influence of Posture on Phenolsulphonphthalein Test for Kidney Function, Arch. Int. Med. **41**: 279 (Feb.) 1928.

1. Benedict, F. G., and Root, H. F.: Insensible Perspiration: Its Relation to Human Physiology and Pathology, Arch. Int. Med. **38**: 1 (July) 1926.

2. Levine, S. Z., and Wilson, J. R.: Respiratory Metabolism in Infancy and Childhood: IV. Elimination of Water Through the Skin and Respiratory Passages of Children, Am. J. Dis. Child. **33**: 204 (Feb.) 1927.

3. Levine, S. Z., and Wilson, J. R.: Respiratory Metabolism in Infancy and in Childhood: VII. Elimination of Water Through the Skin and Respiratory Passages of Infants, Am. J. Dis. Child. **35**: 54 (Jan.) 1928.

feasible to measure the invisible losses by comparatively simple procedures of weighing the body accurately at intervals. This time-saving method suggested by Benedict and Rood for estimating metabolism in adults is probably also reliable for clinical purposes in infants and in children.

ALTERATIONS OF BRAIN VOLUME AND BLOOD VOLUME

In 1919, Weed and McKibben [1] of the Johns Hopkins Medical School published a striking report of the significant demonstration that it is possible to reduce the cerebrospinal fluid pressure and diminish the bulk of the brain by injecting a hypertonic solution into the blood stream. Conversely, they found that hypotonic solutions had the opposite effect: a rise of cerebrospinal fluid pressure and an increase of brain bulk. These observations have repeatedly been verified. The original investigators realized that the ease and rapidity of these changes in brain volume are of considerable interest in view of the old idea of the incompressible character of the brain and its relation to the conception of a constant vascular volume within the cranial cavity. They concluded that the changes in size are independent of the volume of the fluid injected and are probably due to fundamental osmotic effects of the hypotonic and hypertonic solutions.

The clinical bearings of these studies were soon appreciated, particularly in relation to the states commonly referred to as "pressure symptoms." Cushing and Foley [2] of the Harvard Medical School were able to apply the procedure of Weed and McKibben to patients with increased degrees of intracranial tension. It was felt that the undesirable effects on pulse, respiration and blood pressure of such intravenous injections might contraindicate their use. For this reason the effects of gastro-intestinal doses of hypertonic solutions were studied. In a large series of animal experiments it was demonstrated that practically the same effects may be obtained by the gastro-intestinal route of administration. By this method the intracranial changes are not attended by disturbances of pulse, respiration or blood pressure; also the possible alterations of the cellular elements of the blood are avoided. In patients with brain tumor and cerebral hernia subsequent to decompression operations Cushing and Foley observed a lowering of tension when hypertonic saline solutions were given by mouth. Occasionally striking results could be obtained, in which case the tense convex protrusion became a soft concave area over the decompression site.

It is logical to assume that a decrease in brain volume such as has been described is caused by a withdrawal of water from its substance with liberation into the blood stream. There is experimental evidence that other organs too, notably the muscles, give up part of their water content at the same time. It is assumed, therefore, that the water content of the blood, and hence its volume, is thereby increased. The validity of these deductions has just been established at the University of Louisville School of Medicine by Kinsman, Spurling and Jelsma.[3] Following the intravenous administration of hypertonic solutions there is a temporary rise in the cerebrospinal fluid pressure, which is followed by a consistent fall, varying in degree with the amount and the hypertonicity of the solutions injected. There is a marked and immediate fall in the specific gravity of both whole blood and serum, following the intravenous administration of hypertonic solutions. Estimates have been made by Kinsman, Spurling and Jelsma of the volume of fluid that may enter the blood under the conditions that lead to reduction of cerebral volume. In man the volume is estimated to vary from 300 to 1,000 cc. (from 7 to 19 per cent of the blood volume). The extent of the increase is closely correlated with the molar concentration of the blood in terms of the substance injected. Hypertonic solutions of dextrose also were employed with success. Indeed, the Louisville surgeons conclude that as there seems to be slight appreciable difference in the efficacy of dextrose versus saline solution in reducing the pressure, and since clinically dextrose is not productive of any apparent ill effects on the patient, while saline solution may be, for practical purposes dextrose is preferable to saline solution for use in lowering intracranial pressure.

1. Weed, L. H., and McKibben, P. S.: Experimental Alterations of Brain Bulk, Am. J. Physiol. **48**: 531 (May) 1919; Pressure Changes in the Cerebrospinal Fluid Following Intravenous Injection of Solutions of Various Concentrations, ibid., p. 512.

2. Cushing, Harvey; and Foley, F. E. B.: Alterations of Intracranial Tension by Salt Solutions in the Alimentary Canal, Proc. Soc. Exper. Biol. & Med. **17**: 217, 1920.

3. Kinsman, J. M.; Spurling, R. G., and Jelsma, F.: Blood and Cerebrospinal Fluid Changes After Intravenous Injection of Hypertonic Solutions, Am. J. Physiol. **84**: 165 (Feb.) 1928.

Current Comment

THYROID THERAPY IN CHILDHOOD

The effect of the administration of preparations of thyroid gland on persons giving evidence of subnormal thyroid function is well known. It forms the basis for the treatment of true myxedema and cretinism. The thyroid hormone brings about an increased metabolic activity. Although this effect is striking in persons exhibiting the conditions referred to or even less outspoken manifestations of thyroidal insufficiency, the results are not quite so constant or characteristic in normal adults. In them, according to Plummer,[4] the action of the administered thyroid is apparently modified in various ways by the activity of the patient's thyroid gland. It has even been questioned whether an increase in the basal metabolic rate actually occurs in normal persons after thyroid therapy. At the Mount Sinai Hospital in New York, Topper and Cohen [5] have been studying the effect of thyroid ther-

4. Glandular Therapy, Chicago, American Medical Association, 1925, p. 21.

5. Topper, Anne; and Cohen, Philip: The Effect of Thyroid Therapy on Children, Am. J. Dis. Child. **35**: 205 (Feb.) 1928.

apy on children. One justification for this is found in the current recommendations of thyroid medication in conditions, such as nephrosis, which have been interpreted as general metabolic disorders rather than merely renal defects. The surprising outcome has been the lack of response to thyroid administration so far as change in the basal metabolism is concerned; yet there was in some cases an extraordinary increase of growth in a relatively short time during the period of thyroid therapy. Children with a subnormal thyroid respond to thyroid therapy, just as adults with a subnormal thyroid do. As thyroid extract in relatively large doses did not seem to have any effect on the basal metabolism of normal children, the stimulative effect on their growth led Topper and Cohen to question whether the basal metabolism should be the criterion of the effect of thyroid therapy in normal children, especially as thyroid produces other physiologic and metabolic responses. The hypothesis with which they venture to explain the difference between thyroid action in the normal adult and in the normal child is that thyroid, a metabolic catalyst, increases the phase of metabolism which is dominant in the individual: anabolic or growth processes in the child, and catabolic or oxidative processes in the adult. This, Topper and Cohen add, is in line with Kendall's opinion that thyroxin speeds metabolism in the direction in which it is going. In other words, thyroid affects the growth processes of the normal child, while the basal metabolism remains unchanged; whereas in the adult, whose growth processes are complete, the basal metabolism is increased in the persons whose catabolisms are such as to allow further increase. It is believed that this theory fits in with the paradoxical fact that the cretin under thyroid therapy retains nitrogen, while the normal adult under the same treatment loses nitrogen.

THE WRIGHT TUBERCULOSIS TREATMENT —A CORRECTION

In the department of THE JOURNAL devoted to the work of the Bureau of Investigation there was published in the issue of April 7 an article on the "Wright Tuberculosis Treatment," a mixture of water, glycerin and caramel sold as a cure for consumption. The article dealt at some length with a quack, one Charles O. Wright, who for years pursued his fakeries in St. Louis. The dubious activities of Wright and the history of the Wright "consumption cure" over a period of twenty years form part of the article. One sentence in the article, however, has done a reputable practitioner of medicine a serious injustice. This sentence read: "Charles O. Wright received a diploma from the College of Medicine and Surgery, University of Minnesota, in 1890." This statement was based on data that appeared in Polk's Medical Register and Directory for 1908 and again in 1910. The data were false. The facts are, the only Charles O. Wright who was graduated by the University of Minnesota in 1890 is Charles O. Wright of Luverne, Minn., a reputable practitioner who has been a member of his local society and a Fellow of the American Medical Association for many years. THE JOURNAL apologizes to Dr. Wright of Luverne, Minn., for the unwitting injustice done him.

Association News

THE MINNEAPOLIS SESSION

Automobile Routes to Minneapolis

The following information about automobile routes to Minneapolis has been furnished by the Touring Bureau of the Automobile Club of Minneapolis:

Seattle, Billings, Aberdeen, Minneapolis: This road is in good condition about the last week in May or the first of June, depending on the weather. After a heavy rain the roads through Montana, North Dakota and South Dakota to Mobridge are usually blocked, but they dry up in a short while. The roads from Mobridge to Minneapolis are good gravel.

Seattle, Billings, Sheridan, Rapid City, Sioux Falls, Minneapolis: This route through Montana and Wyoming same as above. The rest of the route from Rapid City to Minneapolis is a good maintained highway.

San Francisco, Salt Lake City, Cheyenne, Omaha, Minneapolis: This route is called an all year round route. It is composed mostly of gravel, with a few stretches of dirt road. We suggest that the road from Omaha to Sioux City be used as there is a forty mile detour between Omaha and Dennison which is not in good condition.

Los Angeles, Santa Fe, Denver, Omaha, Minneapolis: This road is open for travel, but during the summer months when it is warm is not very pleasant.

San Antonio, Dallas, Kansas City, Minneapolis: The road from San Antonio to Dallas is paved; from Dallas to Kansas City the road is graveled and short stretches of dirt road, good in dry weather; Kansas City to Des Moines there is a dirt road which is fair in dry weather but poor after a heavy rain; from Des Moines the route is all graveled and is good with the exception of a detour south of Mason City, which is fair, and the road between Albert Lea and Owatonna, which is fair in dry weather but poor after a rain.

Houston, Dallas, Kansas City, Minneapolis: Same as above with the exception of the road between Houston and Dallas. This is a dirt and graveled road and is in good condition.

New Orleans, Memphis, Springfield, Madison, Minneapolis: The road from New Orleans to Memphis is a good graveled road. From Memphis to Madison, Wis., it is paved. From Madison to Minneapolis the road is graveled and paved and in good condition.

Jacksonville, Atlanta, Chattanooga, Nashville, Chicago, Madison, Minneapolis: This route is the Dixie Highway and is usually in very good condition. It is all graveled and paved with the exception of a few dirt stretches. There are no detours that are of any importance.

Boston, Buffalo, Toledo, Chicago, Madison, Minneapolis: The road from Boston to Chicago is all paved and is in good condition with only a few detours, none of which are of any importance. The road from Chicago to Minneapolis is graveled and paved and usually in good condition.

Winnipeg, Fargo, Minneapolis: This route is all graveled and paved and in good condition.

Interrelation of Medical Sciences.—In the striving after knowledge, experience has shown that any limitations, such as usefulness, placed on the results of the searcher seriously handicap him in his effectiveness. The true scientist cannot be restricted to the production of results that are immediately useful or even of results that may be useful in the future. Notwithstanding this, we suspect that every scientist, even the most pure, cherishes a secret hope that his results will receive an early application, and the question may even be raised whether every searcher after truth is not stimulated in his endeavors by the consciousness that his contributions are bound in the end to contribute to the well being of mankind. But if scientists have a dogma, it is that the advancement of knowledge can best be accomplished by pursuing it quite independently of any immediate results.—Cole, Rufus: *Science* **67**:47 (Jan. 20) 1928.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Alumni Support Medical Education Movement.—About 250 persons, mostly graduates of Alabama medical schools, attended a banquet at the Southern Club, Birmingham, April 18, and about fourteen of them made speeches on medical education in Alabama. The alumni approved the movement recently announced to establish a four-year medical course at the University of Alabama and pledged its support. Among the speakers were the newly appointed dean, Dr. Stuart Graves, Louisville, Ky.; George H. Denny, Ph.D., president of the university; Dr. Seale Harris; Dr. John D. S. Davis, past president, state medical association; Dr. Samuel W. Welch, state health officer; Dr. Clyde Brooks, the present dean of the medical school; Dr. John B. Deaver, Philadelphia, and Dr. John W. Barksdale, Jackson, Miss., an alumnus who is said to have driven 500 miles to attend the banquet.

CALIFORNIA

Hospital News.—The new building of the Baby Hospital Association of Alameda County, Fifty-First and Dover streets, Oakland, has been opened, giving the hospital a capacity of eighty-five beds with ward service and private rooms. The hospital is open to all classes of patients from infancy through the fourteenth year.

Society News.—The California Conference of Social Work will meet in the Yosemite Valley, May 22-26; among others, Dr. Haven Emerson, New York, will speak on "Public Health and Mental Hygiene" and Dr. Vaclav H. Podstata, University of California Medical School, San Francisco, on "Interrelationship Between Emotional and Social Factors and Physical Illness."

Personal.—Dr. John D. Keye has been appointed health officer of Holtville to succeed Dr. Walter F. Mosher.—— Dr. Benjamin H. Viau has been appointed health officer of Sanger.—— Dr. Samuel A. K. Wilson, London, England, delivered the annual address sponsored by Alpha Omega Alpha at the graduation exercises of the University of California Medical School, San Francisco, recently.

Oil Company Practices Medicine Without Physicians.—The state board of medical examiners has found a serious situation in the oil fields in Southern California. The so-called emergency hospitals employ unlicensed and, in many cases, unskilled nurses to give first aid treatment for practically all kinds of cases except some that require the immediate attention of a surgeon. At an emergency hospital operated by an oil company near Wilmington, practically all accident cases were given first aid treatment either by the fire chief or his assistant or by three others. These five men comprise the staff of the hospital. There is no registered physician. The fire chief stated that among 168 cases treated, only five were referred to regular physicians. Many of these persons suffered from injuries for which they received compensation under the law. These men were informed, as was also the officer responsible for their employment, that continued violation of the law in this manner would result in their arrest.

CONNECTICUT

Personal.—Dr. William F. Wild, formerly with the American Child Health Association and with the American Society for the Control of Cancer and the Minnesota Public Health Association, has been appointed health officer of Bridgeport.

Connecticut Loses Grip on Smallpox.—In the General News, page 1636, it appears that Connecticut was one of three states which had no smallpox last year. That record was broken abruptly at the beginning of the present year, when, according to the state department of health, there were 145 cases of smallpox in the state from January 1 to March 30. In a bulletin issued May 7, it appears that five cases of smallpox were found at Bristol about that time.

Hospital News.—Mr. and Mrs. R. T. Crane, Jr., Chicago, have given the Hartford Hospital, Hartford, a building to cost about $100,000 for an eye, ear, nose and throat department. It will be known as the Florence Crane Building in honor of their daughter, who was recently a patient at the hospital.——The Stamford Hall Sanatorium gave an exhibit of occupational therapy and mental hygiene groups during the eighteenth annual meeting of the Connecticut Conference of Social Work, April 24, and was host at a tea to the members of the conference.

State Medical Meeting at Bridgeport.—The one hundred and thirty-sixth annual meeting of the Connecticut State Medical Society will be at Bridgeport, May 23-24, under the presidency of Dr. Daniel Sullivan, New London. The Fairfield County Medical Society will entertain, Wednesday evening, at the Hotel Stratfield. The annual dinner of the state society will be Thursday evening (tickets, $3.50). The Bridgeport Hospital and St. Vincent's Hospital will serve luncheon Thursday, following clinics and ward rounds. The Connecticut Women's Medical Society will meet at noon, Wednesday. The scientific sessions will be addressed, among others, by Dr. Chevalier Jackson, Philadelphia, who will also give a motion picture demonstration of bronchoscopic and esophagoscopic cases of general interest; Dr. George H. Bell, New York, on "Rôle of the 'Three T's' and the 'Reform Diet' in Ophthalmology"; Dr. Douglas Quick, New York, on "Radiation in Cancer of the Tongue"; Dr. Lewis Gregory Cole, New York, on "The Gastric Motor Phenomenon and the Pathology of Gastric Ulcer," illustrated with motion pictures, and Dr. Frederick W. O'Brien, Boston, on "Enlarged Symptomless Thymus." The house of delegates and the council will meet both days.

GEORGIA

Society News.—Dr. Frank K. Boland read a paper on "The Surgical Treatment of Tuberculosis" before the Fulton County Medical Society, Atlanta, May 3; among others, Drs. James C. Johnson addressed the society, April 19, on "Chronic Abdomen"; James L. Campbell, "Relation of Medicine to Public Education," and James N. Brawner, "Medical Legislation." Dr. Bivings and Dr. Roger W. Dickson addressed the society, May 17, on "Parental Serum in Measles Management, Therapeutic Use and Further Studies in Prophylaxis." There are four physicians with the name of Bivings in Atlanta, and the society bulletin did not give the Christian name.——The Clarke County Medical Society sponsored a medical institute, Athens, March 7-8; among others, Dr. Joseph C. Bloodgood, Baltimore, discussed "After-Care of Medical and Surgical Cases"; Dr. William A. Mulherin, Augusta, "Infant Feeding"; Dr. D. Lesesne Smith, Spartanburg, S. C., "Upper Respiratory Infections in Childhood"; Dr. Oliver C. Wenger, Hot Springs National Park, Ark., "New Methods for Old Diseases"; Dr. James R. McCord, Atlanta, "Prenatal Care," and Dr. Edson W. Glidden, Jr., Alto, "Diagnostic Methods in Tuberculosis."——Dr. William S. White has been elected mayor of Fort Valley.

ILLINOIS

Chicago

Summer Clinics for General Practitioners.—The Chicago Medical Society announces that the series of summer clinics, June 18-30, to be given in various Chicago hospitals are for general practitioners, and are intended to fill the needs of the family physician. No effort will be made to discuss rare cases or to demonstrate highly technical procedures. The purpose is to answer for the general practitioner those problems which engage his daily attention. Reservations should be made by communicating with the Chicago Medical Society, 185 North Wabash Avenue; registration fee, $10.

Health Inspectors Reinstated.—About fifty physicians and nurses, assigned to health inspection work in the schools, were dismissed, May 1, it is reported, by the Chicago health department because of shortage of funds. These employees had been paid prior to that time from the funds of the Municipal Tuberculosis Sanitarium when they were shifted to the health department. A local philanthropist offered to pay the salaries of these employees until the end of the school year, but the chairman of the finance committee of the city council said that the committee would raise the necessary funds for these employees by a transfer from a less important appropriation.

Society News.—E. S. London, professor of physiology, University of Leningrad, gave two illustrated lectures under the joint auspices of the Institute of Medicine of Chicago and the University of Illinois College of Medicine, May 3-4, on "Experimental Fistulas of Blood Vessels" and "Enzymes, Hormones and Vitamins."——At the regular meeting of the

Chicago Gynecological Society, May 18, Murphy Memorial Building, 50 East Erie Street, Drs. Russell A. Scott, Evanston, Ill., spoke on "Hemiplegia During Pregnancy"; Ralph A. Reis, "Induction of Labor," and Abraham F. Lash, "Puerperal Fever IV: The Therapeutic Value of a New Concentrated Streptococcus Antitoxin."——The annual meeting of the Chicago Neurological Society was held at the Billings Memorial Hospital, May 17, beginning at 3 p. m. Among others, Drs. Anton J. Carlson, Arno B. Luckhardt, Dallas B. Phemister, John Favill and Roy R. Grinker spoke. The president of the society invited the members to be his guests at dinner at the Shoreland Hotel.——Dr. William V. Mullin, Cleveland, addressed the Chicago Medical Society, May 16, on "Relation of Sinus Infection to Diseases of the Chest"; this was a joint meeting with the Aux Plaines branch.——The speakers at the May 24 meeting of the Chicago Urological Society, 50 East Erie Street, will be Drs. Charles B. Huggins, Jacob Meyer, Daniel N. Eisendrath and Edwin W. Hirsch, and W. J. Carson, Milwaukee.——The local officers of the medical reserve corps of the army gave a dinner at the Medical and Dental Arts Club, May 16, in honor of Col. Clarence J. Manly, corps area surgeon, and Major Henry C. Bierbower, who have generously assisted in conducting the reserve officers' training school during the year.

INDIANA

Personal.—Dr. James W. Benham has been appointed health officer of Columbus to succeed Dr. John R. Miller, who has moved to Indianapolis.——Dr. Frank L. Thornburgh, Middletown, celebrated his fiftieth anniversary in the practice of medicine in March.——The Vigo County Medical Society gave a dinner, April 10, at Terre Haute in honor of Dr. Thomas W. Moorhead, Terre Haute, who that day celebrated his fiftieth anniversary as a member of the society.——Dr. Love E. Pennington and his wife, Dr. Veronica M. Pennington, have presented their resignations from the staff of the Logansport State Hospital, effective, May 1. Dr. Love E. Pennington has been acting superintendent of the hospital since the death of Dr. Samuel Dodds.——The governor has reappointed Dr. William T. Gott, Crawfordsville, a member of the state board of medical registration and examination for four years.——Dr. Perry G. Moore, Wabash, celebrated his eighty-third birthday in March.

Indianapolis Society News.—At a joint meeting of the Indianapolis Medical Society and the Indiana Hospital Association, April 10, Dr. Irving S. Cutter, Chicago, spoke on "The Business of Medicine and Its Relation to Hospitalization"; at the April 17 meeting, the program was presented at the Central State Hospital, Dr. Maxwell A. Bahr speaking on "Mental Mechanisms in Health and Disease." Dr. Joseph E. Kilman gave a clinic showing extrapyramidal tract lesions, and Dr. Walter L. Bruetsch spoke on "Extrapyramidal System" with lantern slides. At the April 24 meeting, Dr. Preston M. Hickey, professor of roentgenology, University of Michigan Medical School, Ann Arbor, talked on "Interpretation of Roentgen-Ray Reports in Medical Cases." The society held a symposium on gallbladder disease, May 7, and was addressed by Drs. Raymond C. Beeler, Murray N. Hadley, John A. MacDonald and Elmer Funkhouser. The society's dinner dance is to be May 24.——Walter Shead, a reporter on the Indianapolis *News*, addressed the Indianapolis Medical Society in April; he told the story of his exposé of the Briggs diploma mill, which issued chiropractic and naturopathic licenses in Indianapolis. The secretary of the state board of medical registration, Dr. Eldridge M. Shanklin, Hammond, addressed the society on that occasion. Dr. Howard Lilienthal, New York, addressed the society, March 27, on "Surgery of the Chest," and Dr. Byrl R. Kirklin, Rochester, Minn., April 3, on "Pulmonary Malignancy."

Patient Dies in Chiropractor's Office—Coroner's Report.—Lawrence F. Graf, New Albany, aged 36, died suddenly, April 28, in the office of Chiropractor William L. Stockton, where he had gone for an "adjustment" for a "stiff neck." According to the wife of the deceased, who was present at the time Stockton made "the adjustment," her husband was lying face downward and he became "deathly sick" soon after. According to a local paper, the patient had been complaining of stiffness of the neck for about three weeks. He visited a physician and had apparently recovered. The stiffness reappeared, and he decided to be treated by a chiropractor. Following is said to be the verdict of the coroner, Dr. Frank T. Tyler:

On April 29, 1928, I was called to the undertaking parlors of George Kraft in New Albany, Ind., to view the body of Lawrence F. Graf, who died very suddenly about 8 p. m. on April 28, 1928. I immediately ordered an autopsy to be held, employing Dr. P. R. Pierson and Dr. W. A. Hall to do the work.

Dr. P. H. Schoen, Dr. G. H. Day and myself witnessed the autopsy. We made a thorough examination of the entire brain, spinal cord and all the internal organs, including the heart, lungs, liver, stomach, intestines, kidneys and bladder.

All of the organs mentioned were normal, showing no evidence of disease except the upper part of the spinal cord, which was congested between the first and second vertebrae. The soft tissues in this region showed evidence of recent injury; there was an extravasation of blood in and around the tissues in this region, and a recent blood clot in the spinal canal between the first and second vertebrae.

Basing my opinion on the evidence found at the autopsy and the evidence of the witnesses, I find that death was caused by shock and paralysis due to an accidental injury to the neck and spinal cord probably brought about by a chiropractic treatment received about an hour prior to his death.

IOWA

Dr. Bird T. Baldwin Dies.—Bird T. Baldwin, Ph.D., since 1917 director of the Iowa Child Welfare Research Station and research professor in educational psychology at the State University of Iowa, Iowa City, died, May 12, after a few days' illness due to erysipelas. Dr. Baldwin was widely known for research in child welfare work; he had taught at several universities, and was the author of articles, bulletins and reviews on psychologic subjects.

Correction—Annual Assembly at Twin Lakes.—The Iowa item published last week under the foregoing head was an abstract of the program which the Twin Lakes District Medical Society gave at the last meeting at Twin Lakes. The next meeting will be July 19, 1928. The program is yet incomplete, but the following clinicians have already consented to take part: Drs. William Engelbach, St. Louis; Melvin S. Henderson, Mayo Clinic, Rochester, Minn., and Arthur E. Hertzler, Halstead, Kan.

Personal.—Dr. Rodney M. Arey has been appointed city health officer of Muscatine to succeed Dr. Arthur L. Bryan.——The guests of honor at the annual banquet of the Scott County Medical Society, Davenport, April 19, were three of its oldest members, Drs. William L. Allen, Henry U. Braunlich and Albert W. Elmer.——Dr. Frank A. Hohenschuh has been appointed city health officer at Clifton.——Dr. Carl F. Jordan, Muskogee, Okla., has been appointed assistant professor of hygiene and preventive medicine at the state university; Dr. Jordan formerly resided in Burlington.

KENTUCKY

Hospital News.—The community hospital to be erected near Glasgow with the aid of the Commonwealth Fund, New York, will be under construction within a few days. The community raised $73,000 for the building, and the Commonwealth Fund gave $180,000.——The Trigg County Court has made an appropriation of $1,500, supplementary to appropriations from other sources, to secure a full-time health unit, comprising a physician, nurse and sanitary officer. The federal government, the state and the Rockefeller Foundation will assist in defraying the expenses.

Seven Thousand Blue Ribbon Children on Parade.—The health program of the parent-teacher associations of the vicinity of Louisville culminated, May Day, in a parade of 7,000 "blue ribbon" children from the public and parochial schools, who passed in review before city officials and other prominent citizens in Central Park. Each of the children had been awarded the "blue ribbon of health" in the campaign which began February 1. To qualify for the award, each child had to be within the weight zone; had to have corrected vision, "perfect throat and perfect teeth," and good posture; must have been immunized against smallpox and diphtheria; have had good health habits, and been capable of making a passing mark in school. Music was furnished for the open air ceremony by the police band. Among the officials in the reviewing stand were the city health officer and other health officials of the city and state.

MARYLAND

State Medical Election.—At the annual meeting of the Medical and Chirurgical Faculty of Maryland, April 26, Dr. Alexius McGlannan, Baltimore, was elected president; Drs. Henry M. Fitzhugh, Westminster, Robert P. Bay and Thomas R. Boggs, both of Baltimore, vice presidents; Dr. John T. King, Jr., Baltimore, secretary; Dr. Charles E. Brack, Baltimore, treasurer, and Drs. Charles O'Donovan and Randolph Winslow, delegates to the American Medical Association. The next meeting will be in Baltimore, April 23-25, 1929.

University of Maryland Alumni Clinics.—The Medical Alumni Association of the University of Maryland and the medical school cordially invite graduates to clinics in Balti-

more, May 31, given by Drs. William S. Bowen, clinical professor of obstetrics, Georgetown University School of Medicine, Washington, D. C., and Fred W. Rankin and Louis A. Buie, Rochester, Minn. The annual business meeting of the alumni association will be at 5 p. m., and the annual banquet at 8. Gov. Albert C. Ritchie will be the guest of honor at the banquet, and Pres. Raymond A. Pearson of the University of Maryland, Robert Carman, formerly district attorney for Maryland, and Ex-Senator Joseph I. France of Maryland, will be the speakers. There will be golf, tennis and swimming at the Hillendale Country Club, June 1, and on June 2, commencement.

Society News.—The Charles E. Dohme Memorial Lectures were given this year, from May 7 to 9, at the Johns Hopkins University School of Medicine, Baltimore, by George Barger, professor of chemistry in relation to medicine in the University of Edinburgh, on "Ergot."——Dr. Leslie B. Hohman, Baltimore, addressed the Book and Journal Club of the Medical and Chirurgical Faculty of Maryland, Baltimore, May 8, on "Philippe Pinel," and Dr. Charles N. B. Camac, New York, on "The Papyrus Industry as Known to the Ancient Egyptians and Greeks: The Edwin Smith Papyrus."——At the annual meeting of the Medical and Chirurgical Faculty of Maryland, Baltimore, April 24-26, Dr. William H. Wilmer gave the Trimble Lecture on "Correlation of the Fundus Appearance with the Clinical Manifestations in Papilledema and Renal, Diabetic and Arteriosclerotic Retinitis," and Dr. Norman B. Gwyn, Toronto, Canada, on "The Shaping of a Destiny."——The annual conference of Health Officers and Boards of Health of Maryland was held at Baltimore, April 26-28, and, among others, Dr. Edward Francis, U. S. Public Health Service, Washington, D. C., spoke on "Tularemia and Malta Fever."

MASSACHUSETTS

Personal.—Governor Fuller has nominated Dr. James H. Walsh, Fall River, as associate medical examiner to succeed Dr. Frederick R. Barnes, Jr., who was promoted to medical examiner.—— James F. Norris, Ph.D., director, research laboratory of organic chemistry, Massachusetts Institute of Technology, Boston, has undertaken the consulting editorship of the International Chemical Series, published by the McGraw-Hill Book Company, succeeding the late H. P. Talbot, Sc.D.—— Charles Edward A. Winslow, Dr.P.H., Anna M. R. Lauder professor of public health, Yale University School of Medicine, New Haven, Conn., has been appointed Cutter lecturer on preventive medicine at Harvard University for 1928-1929.——A bill has been introduced into Congress which would provide for a memorial to the late Major General Leonard Wood to be erected at Bourne, Mass.

Society News.—Dr. James S. Stone, Boston, executive secretary to the president of the Massachusetts Medical Society, addressed the Essex North District Medical Society, May 2, on the plan to purchase a building for the state society to accommodate its activities; Dr. Henry R. Viets, Boston, spoke on "Recent Advances in Neurology," and Dr. Arthur W. Allen, Boston, "Treatment of Fractures of the Long Bones."——Dr. Howard C. Taylor, New York, addressed the Suffolk District Medical Society, Boston, April 27, on "Work of the American Society for the Control of Cancer."—— Dr. William C. White, U. S. Public Health Service, addressed the fourteenth annual meeting of the Massachusetts Tuberculosis League, Springfield, April 30, on "Responsibility and Future of Tuberculosis Research."——A gift of 10 acres of land in Medford has been made to the Malden Hospital by Mr. John Chandler.

State Medical Meeting at Worcester.—The one hundred and forty-seventh annual meeting of the Massachusetts Medical Society will be held at Worcester, June 5-6, under the presidency of Dr. John M. Birnie, Springfield. On registering, all fellows are requested to get tickets to the luncheon, Tuesday (free of charge), to the golf links and to the annual dinner. Fellows are also invited to visit the hospitals in Worcester. The annual dinner will be held Wednesday afternoon, following the annual discourse by Dr. Walter B. Cannon, professor of physiology, Medical School of Harvard University, on "Mechanism of Emotional Disturbance of Bodily Functions." The Shattuck Lecture will be given Tuesday evening by Dr. Evarts A. Graham, professor of surgery, Washington University Medical School, St. Louis, on "Some Functional Tests and Their Significance," following which there will be entertainment, moving pictures and refreshments. Among other speakers before the sections will be Dr. John F. Erdmann, New York, on "Surgery of the Gallbladder"; Dr. Edward S. Judd, Rochester, Minn., "Sequelae and Accidents of Biliary Surgery"; Benjamin White, Ph.D., Jamaica Plain, "Serums and Vaccines in the Prevention and Treatment of Diseases of Children"; Dr. Arthur H. Hill, Cleveland, "Problem of the Occiput Posterior Position"; Dr. Russell L. Cecil, New York, "Advances in Scientific Treatment of Pneumonia"; Dr. Max Cutler, New York, "Relation Between Histologic Structure and Prognosis in Cervical Carcinoma Under Radiation Treatment"; Dr. Byron S. Price, New York, "Physical Therapeutics in Pneumonia"; Dr. Douglas J. Roberts, Hartford, Conn., "Practical Points from Pyelography"; Dr. Ralph S. Bromer, Philadelphia, "Osteochondritis Luetica and the Analogous Zones in Rickets and Infantile Scurvy," and Dr. Edwin N. Kime, Indianapolis, "Electrothermic Methods in Surgery." The annual meeting of the council and the supervising censors will be held Tuesday.

NEBRASKA

Society News—Military Program.—At the March 27 meeting of the Omaha-Douglas County Medical Society, Capt. Hugh W. Mahon, U. S. Army, among others, spoke on the Kahn and Wassermann tests; Major Charles M. Walson, "Management of Venereal Disease in a Large Outpatient Department Clinic," and Major Charles A. Shepard, "Modern Treatment of Sprue." A three-reel film, "Flashes of Action," showing the work of medical men during the World War, was presented. Dr. Clarence W. Hopkins, Chicago, chief surgeon, Northwestern Railroad, addressed the society, May 8, on "Physical Observations in the Reexamination of Ten Thousand Men," and Prof. E. S. London, Leningrad, Russia, on "Angiostomy."

NEW HAMPSHIRE

Society News.—At the twenty-third annual meeting of the Hillsborough County Medical Society, Nashua, April 3, Dr. William P. Murphy, Boston, gave an address on pernicious anemia; Dr. John A. Seth, Boston, on purpura hemorrhagica, and Dr. Emory M. Fitch, Claremont, president of the state medical society, on "Medical Defense." Dr. Wellington A. Thompson, Manchester, was elected president of the society for the ensuing year. This society is the largest in the state, having 145 members. The secretary is Dr. Deering G. Smith, Nashua. The women's auxiliary of the Hillsborough County Medical Society held its third annual meeting at this time; Mrs. John F. Holmes, Manchester, presided.——Dr. Henry W. N. Bennett, Manchester, has been appointed a member of the staff of the dermatologic department of the Massachusetts General Hospital; he will continue to practice in Manchester, making daily trips to Boston.

Physician Provides Flannel for the Needy.—In accordance with the will of Dr. Sylvanus Brown, who died about 1870, the selectmen of Derry received a shipment of 1,500 yards of outing flannel, May 7, which will be allotted to such applicants as the board considers worthy under the terms of the will. Dr. Brown directed that a fund be expended annually for the purchase of "good, common, shirting flannel" for undergarments, nightgowns, shirts and dresses for the needy. Dozens of people apply, according to the New York *Times*, for the regulation allotment of 10 yards of flannel, the distribution of which brings to these people in Rockingham County memories of the familiar figure who traveled those roads in a buggy behind his famous white horse "Blessed Charlie." Dr. Brown also established another trust fund to be used in the removal of small stones from the roads, and this provision is still faithfully carried out.

NEW JERSEY

Personal.—The board of pharmacy of the state of New Jersey announces with regret the sudden death, on April 28, of Mr. Harry W. Crooks, South Orange, who served for nearly ten years as president, vice president and a member of the board.——Dr. Clifford B. Lull, Philadelphia, addressed the Atlantic County Medical Society, May 11, on "Phases of Obstetrics Demonstrated by Motion Pictures."

State Medical Meeting at Atlantic City.—The one hundred and sixty-second annual meeting of the Medical Society of New Jersey will be at Haddon Hall, Atlantic City, June 6-9, under the presidency of Dr. Walter P. Conaway. There will be symposiums on physical therapy, gynecology and obstetrics, and minor neuroses and psychoses. The guest speakers include Drs. Harry E. Stewart, New Haven, Conn.; John O. Polak, Brooklyn; Paul Titus, Pittsburgh; Joseph Collins, New York; Edwin H. Place, Boston; Russell L. Cecil, New York, and Albert E. Roussel, Philadelphia. The women's

auxiliary will meet simultaneously. Papers will be limited to twenty minutes, except the orations and addresses of guests. There will be exhibits and entertainment including, among other things, a dance, Friday evening, with unusual features presented by "artists of renown."

Society News.—The Bergen County Medical Society at its April meeting considered the purchase of a home for the society and the lease of a suite of rooms in a professional building; these propositions were rejected as being too expensive at this time; a motion was adopted that hospitals which entertain the society hereafter would be paid $50.——Drs. Collier F. Martin and Walter T. Annon of Philadelphia addressed the Burlington County Medical Society, April 11, on "Anorectal Infections" and "Tonsillectomy," respectively. ——Dr. John J. Gilbride, Philadelphia, addressed the Cumberland County Medical Society, Bridgeton, April 3, on "Diagnosis and Surgical Treatment of Gallbladder Disease"; Dr. Walter P. Conaway, Atlantic City, president of the state society, finished his tour of county societies at this meeting, having attended each of the twenty-one societies during his administration.——Drs. Orrin S. Wightman and Edward L. Hunt, New York, gave a moving picture demonstration before the Hudson County Medical Society, April 3, on "Syphilis of the Cardiovascular and Nervous Systems."——The annual oration of the Osler Clinical Society, Jersey City, was delivered by Dr. Howard Lilienthal, New York, March 21, on "Surgical Treatment of Pulmonary Tuberculosis."——Dr. Sigmund Greenbaum addressed the Mercer County Medical Society, April 11, on "Nonsurgical Diseases of the Mouth with Particular Reference to Syphilis."——Dr. Victor S. Messinger, Easton, Pa., addressed the Warren County Medical Society, Phillipsburg, April 10, on "Diabetes."

NEW YORK

Syracuse Alumni Reunion.—The Medical Alumni Association of Syracuse University will hold its annual reunion at the university, June 7-8. There will be clinics at the Memorial and University hospitals; a smoker at the Onondaga Golf and Country Club, Thursday evening; an inspection of the future medical center, city hospital and new Memorial Hospital, and a "big banquet." Dr. John O. Polak, Brooklyn, will address the meeting.

Society News.—The New York State Association of Public Health Laboratories will hold its twelfth annual meeting at the state laboratory, Albany, May 21.——Albany Medical College, Albany, announces plans to raise a $2,000,000 endowment fund.——Dr. Joseph B. Naselli has resigned from the staff of the Onondaga Sanatorium, Syracuse, to engage in private practice.——The Saranac Lake Medical Society was the guest of Dr. Harry A. Bray, superintendent of the state tuberculosis sanatorium at Ray Brook, April 11. Among others, Dr. Julius L. Wilson reported a case of massive pulmonary atelectasis; Dr. Mack McConkey read a paper on "Treatment of Intestinal Tuberculosis by Cod Liver Oil and Orange Juice."——The Medical Society of the County of Albany was addressed, May 15, at the new Albany College of Pharmacy by Dr. David Warshaw on "Electrothermic Hemorrhoidectomy: An Office Procedure," and by Drs. Arthur M. Dickinson and Clarence A. Traver on "Gas Gangrene in Civil Surgery: Its Treatment with Polyvalent Serum."

New York City

Academy to Award a Medal.—The offer of Dr. Samuel McCullagh to present to the academy of medicine a medal and sufficient funds to endow it has been accepted by the council. It will be known as "The Medal of the New York Academy of Medicine" and will be awarded for unusual contributions to medical science. A committee has been appointed to work out the details of the method of award.

Personal.—Dr. Max Soletsky of the city health department has been appointed assistant attending physician to the municipal sanatorium, Otisville.——Dr. Smith Ely Jelliffe has been reappointed consultant neurologist to the Kings Park Hospital, New York.——Mr. George Blumenthal, president of Mount Sinai Hospital, has donated to that institution the amount of its operating deficit for 1927, about $103,000. ——Dr. Joseph Turner, formerly assistant director of Mount Sinai Hospital, has been made associate director.——Dr. William W. Blackman has been appointed medical director of the Prospects Heights Hospital and Brooklyn Maternity, Brooklyn.——At the April 16 meeting of the Journal Club of the Montefiore Hospital, Dr. Nathan Savitsky spoke on "Heredity and Disease," and on April 30, Dr. David H. Shelling spoke on "Interpretation of Laboratory Data in Relation to Body Equilibrium."

Hospital News.—At an organization meeting, April 17, Dr. David Sashin was elected president of the Alumni Association of the Hospital for Joint Diseases.——The institution listed in the recent hospital number of THE JOURNAL under "Rehabilitation Institute and General Hospital" changed its name in 1927; it is now known as "West Side Hospital and Dispensary."——Two residencies in which the technic of the oxygen treatment and the serum treatment of pneumonia and the chemical and bacteriologic aspects of the disease will be taught have been created at the Harlem Hospital under the Littauer Pneumonia Fund and the Sinsheimer Oxygen Fund. Information will be given on request by Dr. Jesse G. M. Bullowa.——There were 1,345 babies born last year at the Woman's Hospital, One Hundred and Tenth Street between Amsterdam and Columbus avenues. According to the annual report, 62 per cent of the treatment administered in hospital wards was for charity, and the total number of patients treated was 5,064.

NORTH DAKOTA

Society News.—Dr. Walter A. Fansler, Minneapolis, addressed the Stutzman County Medical Society, Jamestown, March 5, on "Nonmalignant Tumors of the Rectum," illustrated with lantern slides.

State Medical Meeting at Devils Lake.—The annual meeting of the North Dakota State Medical Association will be held at Devils Lake, May 23-24. According to the *Journal-Lancet*, among others the following will speak:

Dr. Leonard G. Rowntree, Rochester, Minn., "Lacerations of the Perineum."
Charles H. Lovewell, Major, M. C., U. S. Army, "Leprosy," illustrated with lantern slides.
Dr. Fred L. Adair, Minneapolis, "Toxemias of Pregnancy."
Dr. Solon Marx White, Minneapolis, "Treatment of Heart Disease."
Dr. Stanley R. Maxeiner, Minneapolis, "Local Anesthesia."
Dr. William A. O'Brien, Minneapolis, "Pathology of Thoracic Suppuration."
Dr. John D. McQueen, Winnipeg, Manitoba, "Gynecology."
Dr. Martin A. Mortenson, Battle Creek, Mich., "Organic Heart Disease."
Dr. Edward L. Tuohy, Duluth, Minn., "Functional Heart Disease."
Dr. Arnold S. Jackson, Madison, Wis., "Surgical Aspects of Goiter."
Dr. Frederic E. B. Foley, St. Paul, "Diagnosis of the Various Forms of Bladder-Neck Obstruction."

OREGON

Society News.—Dr. George B. Eusterman, Rochester, Minn., gave the Joyce lecture in medicine before the Portland Academy, April 10, on "Consideration of the More Infrequent Lesions of the Upper Digestive Tract with Differential Diagnosis." Dr. Eusterman also addressed the King County Medical Society, Seattle, Wash., and the City and County Medical Society of Spokane on this trip on "New Light on Old Problems in Diseases and Dysfunction of the Upper Digestive and Biliary Tracts."——Dr. Clarence J. McCusker, Portland, has been appointed a member of the state board of medical examiners to succeed Dr. Marshall K. Hall, Portland.

PENNSYLVANIA

Women's Alumni Meeting.—The fifty-third annual meeting of the Alumni Association of the Woman's Medical College of Pennsylvania will be held at the college in Philadelphia, June 7-8. The scientific program will comprise addresses, among others, by Drs. John H. Wyckoff, Jr., New York; Joseph Sailer and Emily Lois Van Loon. There will be a banquet at the Bellevue-Stratford Hotel.

Society News.—Dr. Philip E. Marks, Pittsburgh, addressed the Massachusetts Association of Boards of Health, Boston, April 26, on "Pneumonia Quarantine in Pittsburgh."——The Roentgen Ray Society of Central Pennsylvania held its thirteenth annual meeting at Lancaster, May 2, jointly with the Lancaster County Medical Society; among others, Drs. George E. Pfahler, Philadelphia, and Charles Caldwell and Robert L. Anderson, Pittsburgh, read papers.——Dr. Edward L. Bauer, Philadelphia, addressed the Berks County Medical Society, May 8, on concentrated low buffer feeding and its place in infant feeding; the June meeting of the society will be addressed by Dr. Karl Winfield Ney, New York, on "Traumatic Lesions of the Nervous System and Increased Intracranial Pressure." Dr. Russell Sage Boles, Philadelphia, addressed the April meeting of the Lancaster City and County Medical Society on "Underlying Reasons for the Development of Pulmonary Tuberculosis in Man and Lower Animals."——At the annual banquet of the Westmoreland County Medical Society, Greensburg, April 27, the guests were Drs. William J. Mayo, Rochester, Minn.; Harlow Brooks, New York; John B. Deaver, Philadelphia; Arthur C. Morgan,

Philadelphia, and Capt. Irving O'Hay.——Dr. Jay F. Schamberg, Philadelphia, addressed the Pittsburgh Medical Forum, May 8, on "Recent Additions to Our Knowledge of the Treatment of Syphilis."

TEXAS

Personal.—Dr. James M. Doss, McAllen, has been appointed superintendent of the Medical Arts Hospital, Edinburg.—— Dr. Jack S. Terry, Dallas, has been ordered to the navy medical school, Washington, D. C., for a course of instruction. Dr. Terry has been in charge of the navy recruiting station at Dallas for several years.

Society News.—"Spontaneous Pneumothorax in an Apparently Healthy Person Followed by Prompt and Complete Reexpansion" was the subject of a paper read before the Harris County Medical Society, recently, by Dr. William C. Spalding, Houston.——The El Paso County Medical Society was addressed, February 27, by Dr. George Turner, on "Diagnosis and Treatment of Bronchiectasis by the Injection of Iodized Oil."——Dr. Charles F. Clayton, Fort Worth, addressed the Brown County Medical Society, February 14, Brownwood, on "Orthopedic Management of Poliomyelitis."——Dr. R. C. Hoover addressed the Coleman County Medical Society, March 1, at a joint meeting with the dental society, on "Syphilitic Arthritis."

UTAH

Society News.—The women's auxiliary of the Salt Lake County Medical Society gave its second supper dance, recently; the occasion has been planned now as an annual event; Dr. Alfred J. Ridges addressed the society, recently, on "Mastoiditis."——Dr. Lewis W. Oaks addressed the Utah County Medical Society, Provo, recently, on "Headache in the Practice of Medicine," and Dr. R. Garn Clark on "Roentgen-Ray Treatment of Uterine Bleeding."—— Dr. Maximilian J. Seidner, Ogden, addressed the Weber County Medical Society, recently, on "Diagnosis of Early Pulmonary Tuberculosis."

WASHINGTON

Hospital News.—The Children's Orthopedic Hospital, Seattle, recently dedicated a new four-story wing. There is a swimming pool where children crippled by infantile paralysis may exercise.——The commissioners of King County have decided to submit the question of constructing a new city-county hospital to the voters at the November election. The Seattle City Hospital has been overcrowded of late; admission has had to be refused to several persons.

Personal.—Dr. Casper W. Sharples has been elected a member of the school board in Seattle for the third time.—— Dr. Erestus T. Hanley has been reappointed city health commissioner of Seattle.——Dr. Howard H. Smith has submitted his resignation as health officer of Yakima, which position he has held since 1919. Dr. Smith has been on a leave of absence for about a year, during which time Dr. Henry Storgaard has been the acting health officer.—— Dr. George N. Belyea has been elected president of the Physicians' Club of Bellingham for 1928.

Society News.—At the March meeting of the Walla Walla Valley Medical Society, Walla Walla, a symposium on the thyroid was given; the speakers were Drs. Jesse W. Ingram, Wallace A. Pratt, Harry C. Cowan, Francis M. Campbell and Elmer Hill.——Thirty-four medical golfers from Seattle visited Portland, April 5, to play their confrères in the first contest of the season. The score was Seattle, 26; Portland, 65.——Dr. Walter C. Alvarez, Rochester, Minn., addressed the King County Medical Society, Seattle, May 7, on "Practical Points in the Diagnosis of Gastro-Intestinal Diseases" with motion pictures. There was a special meeting of the society, April 30, addressed by Dr. Clifford J. Barborka, Rochester, Minn.

GENERAL

Fund for Pharmaceutic Research.—The American Pharmaceutical Association has available $550 which will be expended for the encouragement of research after October 1. Persons desiring aid in their work should communicate with H. V. Arny, chairman of the committee, 115 West Sixty-Eighth Street, New York, before July 1, giving their experience in research and stating the line of work for which the grant is desired.

Medals Awarded to Drs. Vaughan and Jackson.—The George M. Kober Medal of the Association of American Physicians was conferred on Dr. Victor C. Vaughan, for many years dean and professor emeritus of hygiene and physiologic chemistry of the University of Michigan Medical School, Ann Arbor. Dr. Chevalier Jackson, Philadelphia, was awarded the de Roaldes Medal on behalf of the American Laryngological Society, the presentation being made by Dr. Herbert S. Birkett, Montreal.

News of Epidemics.—Many parts of the state of Iowa were reported suffering from an epidemic of influenza, April 30, at which time it was said to be abating gradually.——An epidemic of influenza was reported in Greenup County, Ky., April 29. ——The St. Paul jail with fifty-seven prisoners was quarantined, May 3, following the discovery of three cases of smallpox among the inmates; those who were due to be released had to remain; others committed to the prison were ordered kept out. ——Several hundred cases of influenza were reported from New Castle, Ind., May 5.

Alpha Omega Alpha Meeting.—The eleventh international council of the Alpha Omega Alpha Honorary Fraternity will be held in Minneapolis during the annual session of the American Medical Association, June 14. All members and friends are invited to the dinner at the Nicollet Hotel, after which Dr. James B. Herrick, Chicago, will give an address on modern diagnosis. Two directors will be elected, and applications from institutions for charters will be considered. Another function will be held at the Mayo Foundation, Rochester, June 15.

Increase in Narcotic Tax Rejected.—The proposal in the pending revenue reduction bill to increase the tax on physicians, dentists and veternarians under the Harrison Narcotic Act from $1 to $3 was overwhelmingly rejected in the Senate, May 15. The debate against the amendment was led by Senater Copeland of New York, a physician, who stated that every doctor is aroused over this class legislation. Others opposing the amendment were Senators McKellar of Tennessee and Caraway of Arkansas, who urged that even the $1 narcotic tax be eliminated.

Decision on Sheppard-Towner Act.—Federal financial assistance under the provisions of the Sheppard-Towner Act will cease, June 30, 1929, and states having an unexpended balance of federal funds on that date must return such balance to the United States Treasury. This ruling was recently made by U. S. Controller-General McCarl in response to a request from the state of Georgia for permission to use unexpended federal funds after the repeal date of the Sheppard-Towner Act. The effect of this decision will be to shut off on June 30, 1929, all federal money for this work, both at Washington and throughout the country.

History of Public Health Movement.—Under the auspices of the American Historical Association, the Albert J. Beveridge Memorial Fund has awarded a scholarship to Richard H. Shryock, Ph.D., of Duke University, who will conduct an investigation of the history of the public health movement in this country. An advisory committee, comprising Surg. Gen. Hugh S. Cumming, William K. Boyd, Ph.D., of Duke University, and Prof. Arthur M. Schlesinger, Ph.D., of Harvard University, will assist. This is the first award to be made by the fund which Mrs. Beveridge established in memory of her husband, the senator from Indiana. At the time of his death, Senator Beveridge was chairman of the endowment committee of the American Historical Association.

International Conference on Light and Heat in Medicine.—A second international conference on light and heat in medicine, surgery and public health is being organized by the *British Journal of Actinotherapy*, to be held at the University of London, England, October 29-November 1. An invitation is extended to American physicians and scientists to attend the conference. There will be clinics and an exhibit of apparatus for ultraviolet, radiant heat and kindred forms of therapy. A special section will be devoted to vitamins. The first conference last year was important, and a greater number of prominent men are expected to take part this year. Every assistance will be given those who request information or attend the conference; inquiries should be addressed to the *British Journal of Actinotherapy*, 17 Featherstone Buildings, High Holborn, London, W. C. 1.

Smallpox in 1927—Indiana Heads the List.—Only three states were entirely free from smallpox in 1927 (Connecticut, New Hampshire and Vermont). Two states had one case of smallpox each (Delaware and Maine). Massachusetts had only two cases. The largest number of cases reported in 1927 was from Indiana (4,809). California for the first time in ten years had a total of less than 1,000 cases. While the disease which prevailed was generally mild, there was a total of 135 deaths throughout the country. According to the American Association for Medical Progress, which summarized the reports, for the

fifth successive year the United States reported more smallpox than any other country except India. Information obtained concerning the vaccinal condition of the patients in sixteen states in which complete records are available for 1925 and 1926 indicated that 91 per cent of them had never been vaccinated; 7 per cent had been vaccinated seven or more years previously and 2 per cent had been vaccinated within seven years. In the last group were included many who were vaccinated after exposure to the disease.

National Academy of Sciences—Dr. Chapin Honored.—At the annual dinner of the National Academy of Sciences, Washington, April 24, a public welfare medal was awarded to Dr. Charles V. Chapin, who has been health officer of the city of Providence, R. I., for many years, for his contributions to public health and his work in the administrative control of disease. At this meeting, Dr. Walter B. Cannon, professor of physiology, Medical School of Harvard University, Boston, was elected to serve three years on the council. Among the nine new members elected to the academy were William M. Clark, Ph.D., professor of biochemistry, Johns Hopkins University School of Medicine, Baltimore; Philip A. Shaffer, Ph.D., professor of biochemistry at Washington University Medical School, St. Louis; Dr. George M. Stratton, Ph.D., professor and chairman of the department of psychology, University of California; Lewis M. Terman, Ph.D., professor of psychology, Stanford University, and Alfred L. Kroeber, Ph.D., professor and chairman of the department of anthropology at the University of California.

Society News.—The U. S. Senate ratified, March 22, the revision of the International Sanitary Convention signed at Paris, June 21, 1926. This is a revision of the International Sanitary Convention of 1912, and was signed by more than forty nations.——At the annual meeting of the American Pediatric Society, Washington, D. C., April 30-May 2, Dr. Henry L. K. Shaw, Albany, N. Y., was elected president; Dr. Thomas B. Cooley, Detroit, vice president; Dr. Howard Childs Carpenter, Philadelphia, secretary and treasurer, and Dr. Clifford G. Grulee, Chicago, editor.——Dr. William Le Roy Dunn, Asheville, N. C., was elected president of the American Climatological and Clinical Association, at the annual meeting May 1-2, Washington, D. C.; Drs. J. Woods Price, Saranac Lake, N. Y., and Thomas A. Claytor, Washington, D. C., vice presidents, and Dr. Arthur K. Stone, Framingham, secretary and treasurer. ——The alumni of the Medical School of the University of Maryland will hold a banquet, June 13, at the Hotel Leamington, Minneapolis, during the annual session of the American Medical Association. Tickets can be secured there or from the secretary of the Medical Alumni Association, Lombard and Greene streets, Baltimore, or by writing to Dr. Frederic W. Schlutz, 121 Millard Hall, University of Minnesota Medical School, Minneapolis.

Retired Pay for Disabled Emergency Officers.—The House of Representatives, May 11, passed without record vote and without amendment the Fitzgerald-Tyson Bill, making eligible for retirement emergency officers of the army, navy and marine corps who incurred physical disability in line of duty during the World War. This bill will become a law on the signature of the President. The administration of the provisions of the bill is relegated to the U. S. Veterans' Bureau. Physicians who come within the classes covered by the bill and who wish to take advantage of it should get in touch with the bureau named at Washington, D. C., within twelve months after the date of passage. The term World War as used in the bill is defined as including the period from April 6, 1917, to July 2, 1921. Under the provisions of the bill, emergency officers of the army, navy and marine corps who incurred a physical disability in line of duty in the World War, which is rated at not less than 30 per cent permanent disability, are entitled to retired pay at the rate of 75 per cent of the pay to which they were entitled at the time of their discharge from commissioned service, except pay under the act of May 18, 1920. If the disability is rated at less than 30 per cent but more than 10 per cent permanent disability, such officers are not entitled to retirement pay but are entitled to be placed on the appropriate emergency officers' retired list created by the bill. There are about 577 physicians who will be entitled to the benefits of this legislation.

Commissioned Corps for Veterans' Bureau.—The establishment of a commissioned medical corps in the U. S. Veterans' Bureau for the efficiency and stability of its medical service was urged by members of the medical council of the bureau, April 12, before the committee on World War veterans legislation of the House of Representatives. The proposed legislation provides for a commissioned medical service in the veterans' bureau which would have the same pay, allowances and tenure of service as the medical corps of the army. Dr. Lewellys F. Barker, Johns Hopkins University School of Medicine, Baltimore, spoke in favor of the bill, asserting that group service can be given under the veterans' bureau at small comparative cost to the government; that hospitalization is far superior to home treatment, and that difficulties in the way of administration and supervision under home treatment are insurmountable. Col. Robert U. Patterson, former medical director of the veterans' bureau and a member of the medical corps of the regular army, deplored the fact that the present method of selection of physicians for the veterans' bureau was inadequate; that physicians could not be permanently attracted to the veterans' bureau without prospects of a career or permanent retention in the service. Dr. William F. Lorenz, professor of nervous and mental diseases at the University of Wisconsin Medical School, stated that there is not an adequate number of well trained medical men in the service; that mental and nervous cases require physicians of specialized training, and that it is difficult to attract young men in this field unless a career is open to them. Dr. Benjamin W. Black, Washington, D. C., until recently medical director of the bureau, said that the average age of the physicians employed in the bureau is 45 years. Young men are not attracted to the work "because we have nothing to offer them but the day's work." Dr. Henry Kennon Dunham of Cincinnati, specialist in tuberculosis, urged that all idea of the home treatment of tuberculosis be given up; such treatment, he said, is unpractical and improper.

Medical Bills in Congress.—S. 3936, regulating the practice of the healing arts in the District of Columbia, was reached on the consent calendar of the Senate, May 8. On objection of Senator Dill of Washington, the bill was passed over.—— S. 3127, regulating the mailability of poisons, has been favorably reported by the Senate Committee on Post Offices and Post Roads. The bill passed the Senate, May 10, but the action was later reconsidered because of an error that appeared in the bill. H. R. 10441, the companion bill, is on the House calendar with a favorable committee report.——H. R. 170, providing for the care of certain insane citizens of the Territory of Alaska, has been reported with amendment by the House Committee on the Judiciary with the recommendation that it pass.——H. R. 11022, extending medical and hospital relief to retired officers and retired enlisted men of the U. S. Coast Guard, has been passed by the House and by the Senate.——H. R. 11026, the so-called Parker bill, providing for the coordination of the public health activities of the government, needs only the signature of the President to become a law. Both the Senate and the House have accepted the conference report on the bill.——H. R. 13251, providing for the vocational rehabilitation of disabled residents of the District of Columbia, has been favorably reported with amendments by the House Committee on Education.—— H. R. 13564, providing for cooperation by the federal government with the states in promoting the rural health of the United States, was introduced by Representative Bankhead of Alabama, May 5.——H. R. 13616, authorizing appropriations for cooperation with states granting old age and disabled persons pensions, was introduced by Representative McKeown of Oklahoma, May 8.——Representative Porter of Pennsylvania introduced a new bill, May 9, H. R. 13645, providing for the establishing of two federal narcotic farms. The House Committee on the Judiciary has ordered the bill to be favorably reported.—— H. R. 1, the tax reduction bill, has been before the Senate during the week. No action has been taken with respect to the deduction of traveling expenses of physicians to medical meetings.

Bequests and Donations.—The following bequests and donations have recently been announced:

Henry Heywood Memorial Hospital, Gardner, Mass., $1,000, by the will of the late Joseph L. Rome, Brookline.

Fifth Avenue Hospital, New York, $5,000, by the will of the late Sara Brayton Boardman.

United Hospital, Port Chester, N. Y., $10,000, by the will of the late Samuel Glock.

Babies' Hospital, New York, $10,000, by the will of the late Miss Martha T. Smith.

Lying-In Hospital, New York, $1,000, by the will of the late John S. Matthews.

Canonsburg General Hospital, Canonsburg, Pa., more than $11,000, by the will of the late Herman H. Bebout.

Alumni Association of St. Luke's Hospital Training School for Nurses, $10,000, by the will of the late Dr. Robert Abbe.

Shriners Crippled Children Hospital, Midland, Texas, $25,000, by M. F. Burns.

Massachusetts Women's Hospital, Boston, $10,000 for a roentgen-ray room from Mrs. Costello C. Converse.

Leominster Hospital, Leominster, Mass., fund of $200,000 to be known as the Bernard W. and Elizabeth H. Doyle Fund, the income from which is for the establishment of "free beds for worthy individuals of Leominster." This fund was established by Bernard W. Doyle, mayor of Leominster.

Perkins Institute and Massachusetts School for the Blind, Watertown, Mass., $50,000; Massachusets General Hospital and the Instructive Dis-

trict Nurses' Association for Social Service Work, both of Boston, and the New York Society for the Prevention of Cruelty to Children, each $25,000, by the will of the late Miss Ellen Gray Cary.

By the will of the late George T. Roberts, Philadelphia, each of the following institutions will receive about $60,000: Protestant Episcopal Hospital, Children's Hospital, University Hospital, Pennsylvania Epileptic Hospital and Colony Farm in Chester County, Pennsylvania, Philadelphia Orthopedic Hospital, Maternity Hospital, House of St. Michael and All Angels for Crippled Children, all of Philadelphia.

Visiting Nurse Association of Chicago, $20,000; Children's Memorial Hospital, Chicago, $10,000; Presbyterian Hospital and St. Luke's Hospital, Chicago, each $5,000, and the Walter Scott Industrial School for Crippled Children, New York, $5,000, by the will of the late Edward B. Butler, Chicago.

Presbyterian Hospital, New York, $10,000, by the will of the late Mrs. Jane Livingston Armour.

Beth David and Beth Moses hospitals, New York, $2,000 each, by the will of the late Bernhard Blitzer.

New York State Institute for the Study of Malignant Diseases, $100,000, by the will of the late C. P. H. Shoellkopf, Buffalo.

Germantown Dispensary and Hospital, Philadelphia, $10,000, by the will of Elizabeth E. Cope for the endowment of two free beds.

Ohio Valley General Hospital, Wheeling, W. Va., $5,000, by the will of Mrs. Jessie F. Franzheim.

University of Chicago, $50,000, from C. K. G. Billings for the Frank Billings Clinic; $5,000 from the Commonwealth Fund for a survey of legal tests for insanity, and $1,000 from Dr. Frank Billings for the university clinic's libraries.

The American Legion of Illinois about $100,000 under the will of the late Miss Celeste J. Miller, Chicago, as a permanent trust fund to be used in the "medical treatment, general care and maintenance" of soldiers in Illinois who were wounded or whose health was impaired while overseas.

St. Joseph's Hospital, $17,500; House of Providence, $12,500; St. Vincent's Hospital and Infant Asylum and the Grimes Foundation for Home for Aged, each $5,000, from the estate of the late Mr. John Dunfee. All of these institutions are at Syracuse, N. Y.

Vancouver General Hospital, Vancouver, B. C., $5,000, from the estate of Alexander Beasley.

Sarah Schermerhorn Convalescent and Fresh Air Home, Milford, Conn., $350,000, from the estate of the late Mrs. John Innis Kane for a children's annex and its endowment.

Passavant Memorial Hospital, Jacksonville, Ill., $200,000, by the will of Charles A. Rowe.

The will of Thomas Alexander Forsyth, filed, April 1, in Boston, bequeaths $2,000 each to the following institutions, and all of the residue of the estate after various other bequests to the Forsyth Dental Infirmary for Children: Children's Hospital, Home for Aged Men, Home for Aged Women, Home for Aged Couples, Holy Ghost Hospital and St. Luke's Home for Convalescents, all of Boston and Cambridge, Mass.

Brooklyn Hospital and the Long Island College Hospital, Brooklyn, New York, $3,000 each, by the will of the late Theodore A. Smith.

Jewish Hospital, Brooklyn, $5,000, by the will of the late Mrs. Luba Luria.

The late John Mather bequeathed $900,000 for the erection and endowment of a hospital at Port Jefferson, Long Island.

Yale University, New Haven, Conn., $1,000,000, by the will of the late Chauncey M. Depew, New York.

Shelby County Memorial Hospital, Shelbyville, Ill., $10,000, by the will of George B. Penwell.

Lincoln Hospital, New York, $100,000, by the will of the late James B. Ford.

Children's Hospital, Cincinnati, $10,000, by the will of Judge Wesley H. Richards.

St. Mary's General Hospital, Lewiston, Maine, the residuary estate of the late William P. Gray, amounting to about $500,000.

St. Joseph's Hospital, Bloomington, Ill., $25,000, through the will of the late Mrs. Frances Bundy Phillips.

Servants for the Relief of Incurable Cancer, Hawthorne, N. Y., $83,000, from the estate of Miss Bridget Corrigan.

Good Samaritan Hospital, Portland, Ore., recently announced a gift of from $10,000 to $12,000 for the installation of a deep roentgen-ray therapy apparatus and laboratory by an anonymous donor.

Government Services

Army Personals

Col. Matthew A. DeLaney is relieved from duty at the general dispensary, Boston, and will sail about September 5 from New York to the Philippine Islands for duty. Major Samuel A. White on completion of his tour of foreign service will be assigned to Fort Benning, Georgia. Capt. Claude V. Gautier is relieved from duty at the army medical school, Washington, D. C., and will sail about September 5 from New York to the Philippine Islands for duty. Major James E. Poore is relieved from duty at Fort Humphreys, Virginia, and will sail, about September 5, for the Philippine Islands. Lieut. Charles H. Beasley is relieved from duty at Fort Riley, Kansas, and will sail from San Francisco, about September 21, for duty in the Hawaiian Department. Lieut. Eugene W. Billick is relieved from duty at the Walter Reed General Hospital, Washington, D. C., and will sail from New York, about September 14, for the Canal Zone for duty. Capt. Clyde D. Oatman is relieved from duty in the Canal Zone and assigned to Fort Oglethorpe, Georgia. Lieut. Herbert C. Gibner is relieved from duty in the Philippine Islands and assigned to duty in the surgeon general's office, Washington, D. C. Capt. Henry C. Johannes is relieved from duty in the Philippine Islands and assigned to Fort Humphreys, Virginia. Major Edward P. Beverley has been assigned to duty at Maxwell Field, Ala., on completion of his present tour of foreign service. Capt. Eugene G. Reinartz has been relieved from duty at Bolling Field, D. C., and assigned to Wright Field, Dayton, Ohio. Major Robert A. Hale has been relieved from duty at Wright Field, and assigned to Bolling Field, D. C. Major Lloyd A. Kefauver has been relieved from duty at the U. S. Soldiers' Home, Washington, D. C., and assigned to Fort Jay, New York. Lieut. Col. Charles L. Foster has been relieved from duty at Washington, D. C., and assigned to Fort McPherson, Georgia. Lieut. Col. William H. Moncrief has been assigned to duty as commanding officer of William Beaumont General Hospital, El Paso, Texas. Col. Reuben B. Miller has been relieved from duty at William Beaumont General Hospital, and assigned to the surgeon general's office, Washington, D. C.

Navy Personals

Lieut. (j.g.) George H. Fonde, naval hospital, New York, has resigned from the service. Lieut. Frederick W. Muller has been found qualified for promotion. Dr. Edgar E. Evans, who recently resigned from the service, has returned to Baltimore to engage in practice. Lieut. Comdr. Thomas G. Foster was placed on the retired list, April 21, on account of physical disability. Comdr. William H. Connor will be on duty for about two months at the Mayo Foundation, Rochester, Minn., in the urologic department.

New Flight Surgeons

The following medical officers of the regular army, organized reserves and national guard have completed a three months' course in the school of aviation medicine at San Antonio, Texas, and graduated, April 12, as qualified flight surgeons. A new class reported, May 1.

Col. Harry V. Wurdemann, medical corps reserve.
Capt. Rae E. Houke, medical corps, U. S. Army.
Capt. Clyde C. Johnston, medical corps, U. S. Army.
Capt. Malcolm C. Grow, medical corps, U. S. Army.
Capt. Herbert B. Wright, Ohio National Guard Medical Corps.
Capt. Harold J. Cooper, California National Guard Medical Corps.
Capt. John D. Taylor, medical corps reserve.
First Lieut. John D. Gleckler, medical corps reserve.
First Lieut. Edmund H. Padden, medical corps reserve.

U. S. Public Health Service

Asst. Surg. William W. Nesbit has been relieved from duty at New Orleans and assigned to duty at the marine hospital, San Francisco. Acting Asst. Surg. A. E. Davenport has been assigned to duty at Carville, La. Surg. O. H. Cox has been relieved from San Juan, P. R., and assigned to duty at the marine hospital, Port Townsend, Wash.; en route he will attend the annual session of the American Medical Association, Minneapolis, June 11-15. Acting Asst. Surg. A. P. Campbell has been relieved from duty at San Francisco and assigned to duty at Seattle with the U. S. Coast Guard. Asst. Surg. Clarence D. Kosar has been assigned to duty at the marine hospital, Boston. Asst. Surg. Frank S. Fellows has been assigned to duty at Seattle; Asst. Surg. William H. Sebrell, Jr., to the Hygienic Laboratory, Washington, D. C.; Asst. Surg. Thomas C. Kienzle to the marine hospital, Stapleton, N. Y., and Asst. Surg. George R. Welch to Gallops Island, Boston. Surg. Clifford R. Eskey has been relieved from duty at Manila, P. I., and assigned to duty at San Pedro, Calif.

New Army Field Kit

After years of experimentation at the medical field service school, Carlisle Barracks, Pa., the secretary of war has authorized a new field medical kit to replace the medical officers' belt and the hospital corps' Webb belt which, during the World War, and since, has been unsatisfactory. The new equipment is strictly for first aid work in the field. Basically it comprises a canvas pouch or container and a carrying device. The capacity of the container may be greatly expanded when going into combat by simply removing a string whereby the bottom of the pouch drops; twenty-eight first aid packets may then be carried, whereas ten first aid packets are carried in the "normal position." Another new feature of the pouch is its adaptability to the equipment of a private first class, or a medical officer or a dental officer. The carrying device for the new equipment is a pair of suspenders and three sets of straps. The load is distributed between two pouches so suspended from the shoulders that they are carried at about the level of the waist on either side of the abdomen. The equipment for the medical officer consists of only one pouch which may be carried over the shoulder or as a handbag or attached to the saddle on his mount.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 28, 1928.

The Prevention of Foot and Mouth Disease

The ministry of agriculture is taking measures to prevent the introduction of foot-and-mouth disease from South America. In 1926 a disastrous epidemic occurred in Scotland which was traced to carcasses of pigs imported from Europe for conversion into bacon. The result was that importation of fresh carcasses and their offals from Europe was prohibited. In this country cattle and pigs were slaughtered in the early stage of the disease and their carcasses were dressed for market in the usual way and kept at temperatures as low as 15 F. Bone marrow from such chilled carcasses was proved by inoculation to remain active for forty-two days and the blood from thirty to forty days. Certain conditions to get the disease under control were agreed to by the South American countries which export meat to Britain to prevent the export of carcasses in the infective stage. At the request of the minister of agriculture Lord Bledisloe undertook a mission to these countries to modify, if necessary, and finally ratify, the agreements which were awaiting final adjustment. He reported that the hygienic conditions of the frigorificos and the system of official veterinary inspection, both before and after death, were as good as, if not better than, any other in the world. He found, however, except in the frigorificos and the corrals (collecting yards adjoining them) little or no systematic attempt to control the dissemination of the disease and he held that any endeavor to impose drastic regulations and penalties on countries wholly unused to such control would defeat its object. In Argentina it has been decreed that removal of animals will not be permitted unless it has been established by veterinary inspection that on the estancia they are free from all contagious diseases and that inspection at the freezing plants shall be increased. Lord Bledisloe also visited Uruguay and Brazil, where similar decrees are now in force. Local authorities in Britain are again being asked vigorously to enforce the orders which prohibit bones, broken foodstuffs or swill and cloths in which foreign meat is wrapped from being brought in contact with animals until they have been boiled or otherwise sterilized.

The War on the Tsetse Fly

Dr. Claude Fuller, formerly chief entomologist of the Union of South Africa, has left Pretoria for Lourenco Marques, where he will assume the duties of chief entomologist to the government of Mozambique. The Portuguese government has engaged him for this purpose. He spent some time in the study of the tsetse fly in Zululand, and his conclusions will have a far-reaching effect on the nagana (trypanosomiasis in cattle) problem. He holds that eradication of the tsetse fly in the presence of game is impossible. The game could be removed to many places where the fly could not live, but unfortunately the game reserves and the game sanctuaries are established in the heart of the fly country. Dr. Fuller's investigations in Zululand show that the manner of feeding of the tsetse fly is such that it cannot be poisoned. Unless the "dip" is made twenty times stronger than it can be safely used on an animal, the fly cannot be killed by coming in contact with it. It can alight on the wet animal just as it comes out of the dipping tank without suffering the least ill effect. When probing the skin the fly keeps the tip of its sucking tube closed until it has entered a blood vessel. When the tip enters a blood vessel it is opened and saliva is squirted out to prevent the blood from clotting. Then the blood flows into the fly's stomach more from its own pressure than from anything else. Dr. Fuller succeeded in getting some flies to feed on drawn blood to which known quantities of arsenic had been added. The amount which would have to be injected into the vein of an animal to kill the fly would kill nine animals out of ten at once. Even if it did not kill the animal it would be necessary to inject it every few minutes, because the poison passes out of the blood quickly. Dr. Fuller found that in Zululand along the banks of the White Umfolozi the tsetse fly is present in incredible numbers, to an extent which has never been disclosed. The health department of the Mozambique government has appointed a commission to investigate trypanosomiasis and has arranged to send specialists to the affected districts and hopes thus to reduce the incidence of the disease.

The Troubles of Medical Socialism: Attempt to Enforce Prescription Economy

In previous letters the evils of the form of medical socialism known as national health insurance have been pointed out. A fundamental one is that there is no effective interest in economy, that a large part of the huge expenditure on drugs is waste. The following incident has just occurred: A physician was visited by the regional medical officer, who criticized his methods of prescribing, and he subsequently received a letter from the ministry of health stating that the minister found it difficult to avoid the conclusion that he had not given due attention to the importance of exercising reasonable economy in prescribing. The case then came before the local insurance committee which reports that evidence was presented that in several instances patients had to purchase medicines which, as a result of the letter from the ministry, the physician felt he could not prescribe. The committee held that it was the duty of the physician to prescribe all such medicines as were reasonably necessary and that the function of the ministry was merely to decide whether there was a prima facie case for investigation, and if so to bring the case before the panel committee (composed of local physicians), and that it was for this committee and not the ministry to decide whether the physician had been extravagant. The physician was told by the regional medical officer that the cost of the drugs he had ordered was exceptionally high. The impression left by the interview was that the regional medical officer had already made up his mind and did not wish to listen to explanations. There is nothing in the regulations which suggests that officials will have private interviews with physicians before deciding whether there is a prima facie case or not and such, says the committee, seems repugnant to British ideas of justice. The committee, however, realizes that such interviews may save time and trouble but suggests that the interview should be limited to investigation and that the regional medical officer should ask for explanations but not express opinions.

The Medical Examination of British Emigrants to Canada

As previously reported, the Canadian government has been sending Canadian physicians to this country to examine prospective emigrants at various centers. Evidently the examination of all emigrants by Canadian physicians has proved too much as the Canadian department of health in London now announces that the regulations have been modified so as to allow the examination in some of the more remote parts of the country where the Canadian examiner cannot conveniently attend to be conducted by a local physician. When the new regulations were issued a few months ago, they were criticized and the fear was expressed that a decrease in the already declining number of settlers from this country would be the consequence. In place of the former system, by which emigrants were examined by British physi-

cians numbering about 1,500, a Canadian medical staff of eighteen was established to which emigrants had to report at the various centers on specified days. It was stated that the new requirement, involving in many cases long journeys and delay, might cause many to change their plans and go elsewhere. No doubt as a result of these criticisms, the regulations have now been modified. While the principle that all emigrants must be examined by Canadian physicians is reaffirmed, it has been arranged that the Canadian physician may authorize local physicians in his area to perform this duty. The examination of the local physician may be to all intents and purposes final, but the reports will be supervised by the Canadian medical examiner.

Maternal Mortality

In a joint letter to the *Times* the leading obstetricians deprecate the suggestion recently made that the local health authorities should undertake the investigation of the overdue reduction in the mortality of childbirth. The obstetricians consider that the suggestion is unlikely to offer any solution of the problem and urge the need of research by skilled workers. No short cut of the kind will solve the riddle that has up till now baffled the minds not of this country alone but of all civilized nations in the effort to unravel the tangle that lies at the root of the persistence of puerperal fever. Its infectiousness is well known but knowledge has progressed little beyond this stage. It is still a matter of controversy as to what proportion of cases arises from a latent infection within the patient herself and what proportion from infection carried to the patient, or how far the disease depends on a lowered resistance of the patient, or what factors determine susceptibility to infection and to its spread. The anomalous incidence of the disease is as yet unexplained; as, for example, why a rapidly fatal infection may follow an absolutely natural childbirth, while a nonfebrile recovery may follow complications in which serious consequences appear inevitable. The same holds for the next largest factor in mortality, the puerperal intoxications (eclampsia and allied states) and many other conditions in childbirth. The research calls for a close alliance between the physician, the biochemist, and the bacteriologist. What is needed is financial assistance for the establishment of clinics and laboratories.

Alleged Negligence in Not Using Roentgen Rays in Fractures

It has become a commonplace that, if only to protect himself against a charge of negligence, the surgeon should use roentgen rays in all cases of fracture, and many surgeons have been mulcted in damages when the result was bad, simply because they did not use the rays. But in some cases the patient declines roentgenography because of the expense. The surgeon is then relieved of the responsibility, but the importance of having the patient's refusal put on record is shown by the following case: A man claimed damages from a surgeon because he had not been treated for fracture but for bruised muscles after a motor accident. A roentgenogram was not taken until thirteen weeks after the accident and showed fracture of the upper part of the right femur. The man then went to the London Hospital and was discharged as a cripple with the intimation that nothing could be done except a major operation involving bone grafting. The surgeon, on the other hand, maintained that from the first he advised the man to go to the hospital and submit to roentgen-ray examination but that the man refused. The surgeon declared that he actually told the patient that he was suspicious of fractures and that the roentgen rays might reveal one or more, but he did not find definite symptoms. The plaintiff's story was a blank denial: he had never refused to submit to roentgen-ray examination. Witnesses gave conflicting evidence on the point of the refusal of the patient. After taking four hours to consider their verdict the jurors felt they were entitled to better guidance than such evidence in a case in which a surgeon's skill and veracity were concerned and returned a verdict for the defendant, but they added this comment: "We are of the opinion that the surgeon should have protected himself by calling in another physician and repeating in his presence the advice that the patient go to a hospital and submit to roentgenography. Mr. W. E. Hempson, who for thirty years has occupied the post of solicitor to the British Medical Association, gave clear advice on this point in an address published in the *British Medical Journal:* He said: "In my experience controversy frequently arises at the trial of an action as to whether the doctor did or did not recommend some particular form of treatment which the patient or a relative refused, and no conclusive evidence is forthcoming on the subject. My advice is to note in your books—such as this would suffice—X-ray treatment advised and refused.' In addition, take the precaution of placing it on record in a letter to the patient and keep a copy of it."

The Increase of Street Accidents

In a previous letter the dreadful roll of the deaths in London due to the motor traffic has been given. Figures now at hand for the whole country show that 5,329 persons were killed in street accidents caused by vehicles in Great Britain last year, against 4,886 in 1926. Last year 613 people were killed in accidents in which motor omnibuses and motor coaches were involved and 183 in connection with motor cycles with side cars. Accidents to solo motor cycles with pillion passengers resulted in 413 deaths, and to motor cycles without passengers in 784. In accidents to private cars and taxicabs there were 1,509 deaths, and to motor vans 1,104. Horse-drawn vehicles caused 193 deaths and pedal cycles 417. The number of persons injured in 1927 was 148,575, against 133,888 in 1926. The figures for last year included: motor cycles with side cars, 7,169; motor cycles with pillion passengers, 10,416; motor cycles without passengers, 23,559.

Fatal Inoculation of a Physician While Operating

A physician opened an abscess on a boy's arm. Four days later he complained of pain in one of his fingers and later a small abscess formed, which he lanced himself. He was afterward removed to a nursing home, where he died. Dr. Bronte, the senior government pathologist, who made a necropsy, said at the inquest that death was due to heart failure following blood poisoning. He had no doubt that the poison had been introduced at the operation as a result of a scratch on the physician's finger.

Physicians Refuse to Take the Risk of Certifying Insanity

It is well known that however careful a physician may be, he incurs a considerable risk in certifying a person to be insane. He is liable to have an action brought against him for wrongful certification if the person recovers and the question of insanity is often a very arguable one. "I won't certify anybody owing to the state of the law. I cannot afford $25,000," said a physician in a murder trial that has just taken place. Mr. E. B. Turner, a member of the British Medical Association committee on the question of certification, says in a press interview: "The law leaves it open to any one who has been certified to bring an action against a physician years afterward. There is no doubt that physicians are declining to certify. It is the opinion of the medical profession that physicians signing a certificate should have the privileges of a witness in a law court. The British Medical Association is considering the subject carefully. We are informed that legislation is likely to be introduced on the lines suggested by the Royal Commission on Lunacy." Mr. Turner added that there were cases in which a physi-

cian would certify without hesitation, yet the patient would be cured in a few months and he would come out free to take legal action against the physician. In nine cases out of ten the physician would win but he might be ruined by heavy law costs.

PARIS

(From Our Regular Correspondent)

April 11, 1928.

A Wholesale Trial of Drug Addicts

The recent wholesale trial in Paris of drug addicts and dispensers of narcotic drugs covered charges against not less than seventy-five persons, some of them ordinary traffickers in morphine, heroin, opium and cocaine; others were simple drug addicts who had resorted to fraud in order to procure their drug; then there were a number of physicians and pharmacists charged with violations of the regulations in regard to the prescribing and the sale of narcotics, most of these having been merely imprudent, though doubtless some were truly guilty. The reason for this exceptionally large number of accused persons was that the court desired to group together all the cases on the docket coming under the same general head. Some of the charges dated back four years. Counsel for the addicts pleaded that they could not be held accountable for their fraudulent acts as their judgment was impaired by their chronic state of intoxication. The judge questioned them kindly. He was more severe in his manner as he directed questions to the physicians and to the pharmacists, and when he recognized professional traffickers in narcotics. He spoke at times somewhat indulgently to some of the physicians who had been so naive as to allow themselves to be duped by their astute clients. Some of the drug addicts had told their physicians that they were planning to have him give them demorphinization treatment but that they needed a small supply of morphine so as to arrange their affairs or to take a trip before beginning the treatment. By telling the same story to several different physicians, they were able to procure as much morphine as they desired. One addict had a supply of prescription blanks printed, in exact imitation of a physician's blanks, with the days and hours for consultations given. These he filled out and signed himself, and in this manner was able, by making the rounds of the pharmacies of Paris and its suburbs, to secure an enormous supply of drugs before the fraud was discovered. The judge, who had had an investigation made in all the pharmacies of the Paris region, had 13,370 prescriptions to inspect, many of which were counterfeited. It was shown that some pharmacists knew that the prescriptions presented were not genuine but filled them nevertheless. The most interesting part of the trial was the deposition of the experts. Professor Balthazard, medicolegal expert, criticized the decree of 1916 that regulates the prescribing and sale of narcotics; more particularly, the provision that authorizes a physician to dispense seven ampules of morphine weekly, in large doses, during the course of ambulant demorphinization treatment. Such treatment is illusory and opens the way for all sorts of fraudulent practices. Demorphinization treatment cannot be regarded seriously unless the patients are under rigorous supervision. It is adapted only to special sanatoriums. Dr. Radais, dean of the Faculté de pharmacie, criticized the law which, on the admission of opium at the French borders, assumed that it contained 10 per cent of morphine, whereas today it contains 12 per cent or more, with the result that the excess escapes legal supervision as to its ultimate destination. Furthermore, the penalties imposed are much too mild to deter traffickers from repeating the offense; for instance, one of them in whose possession 20 Kg. of smuggled morphine was found received a sentence of only three months in prison and 200 francs fine. Thus, this trial ended as usual with the imposition of mild penalties.

Compulsory Treatment of Tuberculosis in Recruits

Dr. Brouardel, addressing the Academy of Medicine, gave recently a good suggestion that has since been brought to the attention of the minister of war. Heretofore, when a young man reached the age for the beginning of military service (21 years), he presented himself, since such service is obligatory in France, to the military authorities and was examined by military physicians, who either eliminated entirely or "set back" a year or two those whose condition of health was below standard, and especially the tuberculous and those with a habitus phthisicus. (If, during the course of their military service, they become ill and are discharged, the law allows them a pension for disease contracted in the service of the state). They are sent home to build up their health, and are reexamined the following year. At home, they are often poorly taken care of and some of them may infect their entourage and create a focus of tuberculosis. Brouardel suggested that tuberculous subjects discovered among applicants by the registration board be treated at government expense in suitable sanatoriums, the treatment being made compulsory, since, beginning with their examination, they are under the control of the military authorities. The time spent in the sanatorium would be counted toward the fulfilment of their period of military service. The draft of a law covering this new proposal has been introduced by M. Justin Godart into the chamber of deputies and will be considered at the next session of the chamber.

The Presence of Amebas in Bronchial Expectorations

Grasset and Fourquier of Montpellier communicated recently to the Academy of Medicine the results of their researches to the effect that the amebas of patients with dysentery may be carried to their lungs. In five patients affected with ordinary thoracic disorders they found on examination *Ameba coli* in the expectorations.

Senile Cutaneous Keratoses in Relation to Cancer

Keratoses of the face, the neck and the hands in the aged are universally regarded as small skin cancers. They have the structure of cancers, develop into cancerous ulcers when traumatized, and may be readily cured by applications of radium. M. Dubreuilh of Bordeaux has contended for some time that their development, which is more frequently observed among the rural population, is facilitated by the ultraviolet rays contained in the solar light. Such keratoses are, indeed, much less common in aged persons dwelling in the cities and living less in the open air. Dubreuilh reports a case which furnishes evidence for his theory. A patient subjected for a period of eighteen months to ultraviolet rays has recently developed, in his service, an epitheliomatous keratosis closely resembling the small epitheliomas of the face observed in dwellers in rural communities who are constantly exposed to the sun. Dubreuilh explains, furthermore, that the rare occurrence of such epitheliomas in negroes of the tropical regions is doubtless due to some special defense action of their skin.

Should Myopia Be Treated Solely by Physicians?

A peculiar case was recently tried before the Tribunal de la Seine. The defendant was a quack who treated myopia by a special massage of the eyeball, though he held no medical diploma. He had a large number of patients. The ophthalmologists became aroused by his activities, and he was tried for illegal practice of medicine. Specialists emphasized that massage might be actually dangerous if applied to certain subjects, since such intervention might cause detachment of the retina, which is a frequent complication in severe myopia cases. A subtle discussion arose at the trial. The practice of massage does not require the possession of a doctor's diploma; but that is understood to apply only to ordinary massage and not to cases in which it might prove harmful if applied without the supervision of a physician; for instance, in fractures or in

complicated sprains. The masseur who is not a doctor of medicine should therefore not treat such patients. But the defendant contended that myopia is not a disease but a special condition of the organism, which is sometimes congenital; he cited also the opinion of Professor d'Arsonval, who had offered to present before the Academy of Sciences his articles on the massage of the eye. On the basis of the opinions of Professor Balthazard, medicolegal expert, and of Professor de Lapersonne, an oculist, and in spite of the opinion of Professor d'Arsonval, the tribunal imposed on the masseur a fine of 100 francs and awarded the syndicate of oculists 5,000 francs ($200) by way of damages. The court took the view that even a physician might have accidents result from such massage, and that therefore such maneuvers should be entrusted only to physicians. The court did not express an opinion on the main question as to whether myopia could be legally considered as a disease. The syndicat des médecins oculistes awaited such a decision with great interest, for it was evidently planning, if the decision was in their favor, to apply it against numerous dealers in spectacles who selected themselves the glasses for their clients, though they have had no adequate training in the estimation of visual acuity, and who, by their unwise selections, aggravate the condition of many of their clients.

Regulations in Regard to the Disinfection of Buildings

The prefect of police of Paris has issued a decree prohibiting the use for the disinfection of apartments, either after a contagious disease or for the destruction of parasites, of products other than those that have been approved by the superior council of public health of France. A number of accidents have occurred, two of which resulted recently in fatalities, following the use, by private concerns, of secret products, some of which contained hydrocyanic acid.

The American Dormitory at the University City of Paris

The University of Paris has placed at the disposal of the United States, within the area of the University City, a tract of land comprising 7,000 square meters, for the erection of the American Dormitory for the accommodation of 260 students.

TURKEY

(From Our Regular Correspondent)

March 18, 1928.

Antimalarial Work in Turkey

At the suggestion of the ministry of hygiene, the Great National Assembly passed in 1926 a law by which appropriation was made for a campaign in the malaria regions. Malaria is the most prevalent disease in Turkey. The campaign started in 1925, and the provinces of Angora, Adana and Aidin were selected as the first regions to be dealt with. Since Angora had been chosen the new capital, it came first in importance because of the incidence of malaria among the government officials who were obliged to live there. The provinces of Adana and Aidin were selected because they seemed to have the highest percentage of the disease and because of their productive value. In 1926, the provinces of Konia, Brussa, Samsoun and Izmid were included.

According to the new malaria law passed in May, 1926, all new graduates of the medical university are required to take, in a malaria institute assigned them by the ministry of hygiene, a special three months' course. For this period they are considered on leave with full salary. The ministry of hygiene is to form and establish the necessary relief bodies (commissions), institutes, laboratories, hospitals and dispensaries in any zone which the ministry has proclaimed a malaria-infected region. All government institutions and organizations are to assist in the relief work in the areas selected. In malaria-infected regions quinine is to be distributed by the ministry, free of charge to the poor of the villages and towns, as well as to people of the working classes.

Pools and ponds necessary for common use are exempted from drainage, but the building and maintenance of these pools and ponds is to be controlled by special rules. All accumulations of water in private or common property are to be prohibited if they are declared harmful by the commission. The duty of abolishing dangerous accumulations of water is to rest on the local population when only small efforts are required. The people may discharge their shares of the liability either by physical labor or by payment of a special tax levied by the council of the village, town or municipality. From this tax persons under 15 and over 65 years of age are exempt. The equivalent of five days' labor a year is the maximum that can be required of any one taxpayer.

In areas proclaimed infected, the tenants or owners of large farm lands, public as well as private, are obliged to distribute quinine free of charge to their employees and are also required to look after these people and to take precautions so that the people are prevented from becoming infected with malaria. It is obligatory to build properly covered pits in places where there are no modern means for sewage disposal, and it is strictly prohibited that sewage be disposed in other than approved sewerage systems. To accumulate manure or other wastes, such as garbage, in house-yards is also prohibited.

If the treatment of a malaria region requires a long time, the inhabitants of villages situated within 3 kilometers of this region will be removed to other safe zones. The government will supply the necessary lands and funds for such changes.

The staff of a malaria commission consists of a medical officer in charge (malariologist), several medical officers with special training in antimalarial work, a medical officer in charge of the laboratory, from fifteen to forty sanitary inspectors and trained orderlies.

In 1925, 35,629 patients were treated. In 1926, in all regions covered by the campaign, 528,305 persons were examined and of these 117,648 were found in need of treatment. In all laboratories, 96,830 blood smears were examined. In 1927 the work of the campaign was enlarged and another 636,089 persons were examined, 193,581 blood smears were made, and 115,352 persons came under quinine treatment. In general, *Plasmodium vivax* is most prevalent in Turkey.

Under the presidency of the minister of hygiene, Professor Dr. Refik Bey, a meeting of the chiefs of the malaria commissions was recently held at the ministry. The reports for 1927 were read and the program for 1928 discussed. It was noted that during last year no new cases of malaria occurred in the city of Angora and only a very few mosquitoes could be found.

Reduction of Pharmacies in the Cities

In order to secure the proper distribution of pharmacies all over the country, the ministry of hygiene exerted its influence to have a law passed by which there is to be one pharmacy to every 10,000 of population in the cities. In isolated communities with less than 10,000 population and where on account of lack of transportation communication is difficult, either a pharmacy is to be established or one already existing there is to be continued.

There are more than 300 pharmacies in the city of Constantinople with a population over 700,000, while in some eastern provinces there are only three or four pharmacies to a population of 182,772 over an area of 16,000 square kilometers, though in these regions, to the government free dispensaries which are more numerous here than in any other part of the country, there have been added pharmaceutic

outfits with chemicals, drugs and medicaments of ninety-four varieties to be dispensed by the physician in charge.

This law was passed in January, 1927, but it was not until Oct. 28, 1927, that, under the direction of the Belgian statistician Camil Jacquart, a general census was for the first time taken in Turkey. For this reason, the law could not be enforced until February, 1928. Since then orders have been issued by the ministry compelling the health departments in the provinces to make the necessary arrangements to carry out the provisions of the law.

In the city of Constantinople the pharmacies will be reduced to 119. This intention has already resulted in a number of pharmacists making applications for permission to reopen their pharmacies in other parts of the country.

In 1921 there were in Turkey 432 pharmacies. By 1927, 500 more had opened. Of these, 215 were closed again either because of noncompliance with government regulations or on their own account. At present there are 717 pharmacies and eighty-two wholesale druggists.

From 1924 to 1927, 312 medicinal compounds of Turkish pharmacists have been analyzed and permission has been granted for the importation of 677 varieties of chemicals, drugs and medicaments. All pharmacies are under strict control; no chemicals, drugs or medicaments whatever are allowed to be sold at any establishment other than a duly licensed pharmacy.

ITALY

(From Our Regular Correspondent)

March 1, 1928.

Congress of Obstetrics and Gynecology

The Società italiana di ostetricia e ginecologia held its twenty-sixth congress in Rome, under the chairmanship of Prof. Ernesto Pestalozza, senator.

OVARIAN GRAFTS

The official paper on the first topic (Ovarian Grafts) was presented by Prof. Giacomo Aymerich, director of the Clinica Ostetrica in Perugia. The speaker discussed briefly the purpose of the graft and described its several varieties. He stated the fundamental principles determining the successful implantation and fixation of grafts, and took up then the subject of the ovarian graft, first applied experimentally by Paul Bert in 1863, and today widely used. It has been established that a successfully grafted ovary may produce (though somewhat irregularly) follicles, some of which mature and give place to corpora lutea. The ovarian graft prevents the appearance of the phenomena that often follow ovariectomy. In old experimental animals it produces a somatic and psychic transformation and stimulates the various functions of the organism. The best results are secured with autotransplants. The intervention is indicated chiefly in connection with operations on the adnexa in which it is not possible to leave in situ one ovary (at least), and possibly also in metrorrhagia of ovarian origin. Homeotransplants present numerous failures; they are effective mainly in cases of hypovaria. The ovarian graft has been applied in many different sites; the choice of the site depends on the purpose for which the intervention is undertaken. If one desires to follow an extraperitoneal method, a good site may be found in the abdominal muscles, owing to the fact that they lie near the surface and have a good blood supply; also because of the opportunity of easily removing the graft in case of complications or if it is desired to abolish its functioning by means of roentgenization. A special procedure is that of intra-uterine grafts. The selection of the donor is important. The experiences derived from grafting ovaries preserved in various ways do not permit as yet definite conclusions in regard to the value of the intervention. As to the possibility of effecting a rejuvenation by means of the ovarian graft, the conception of rejuvenation in the sense attributed to the phenomenon by Steinach and Voronoff is regarded as erroneous, so that even these authors now use the term "revitalization." The author referred to the diversity of view regarding old age as presented by Voronoff, who assigns maximum importance to the reproductive organs, and as conceived by Pende, who attributes the maintenance of youth to the functional synergism between the genitalia, the thyroid, and the pituitary body. Pende and Durante treated a woman, aged 77, affected with otosclerosis, with a graft derived from the ovary, thyroid and pituitary body of a monkey. The woman improved in hearing and strength, and regular menstruation periods set in again. Only a few months have elapsed since the experiment was performed.

Oliva of Genoa recounted his results in eighty-three transplantations of organs performed on women since 1924; namely, sixty-three autotransplants with fresh or preserved ovaries, sixteen homeotransplants of the placenta, and two heterotransplants with the preserved ovary of the cow. The indications for the intervention were: ovarian dysfunctions of puberty and of the reproductive period, hypoplasia, disturbances from ovariectomy, and inoperable carcinoma. As results, he secured a provocative or regulatory action of the menstrual function; the effect was, however, only temporary, persisting for from one to two years. Six pregnancies were noted; there was one case of improvement in infantilism, and temporary relief from symptoms in patients with carcinoma.

PREMATURE SEPARATION OF THE NORMAL PLACENTA

The officially appointed speaker on the second topic (Premature Separation of the Normal Placenta) was Prof. Paolo Gaifami, director of the Clinica Ostetrica in Bari. The author distinguished between premature separation, which occurs in pregnancy or during the first hours of childbirth, and early separation, which takes place in advanced labor, being due to mechanical factors operative during childbirth. He discussed in detail premature separation on the basis of a series of 400 cases that he collected. The separation may be total or partial. The relative frequency of such separation varied from a minimum of one case in 1,838 births, as noted in Bologna, to a maximum of one case in ninety births, as noted in Bari, or an average of one case in 418 births. The average mortality as regards the mother was 9 per cent. Albuminuria was concomitant in 80 per cent of the cases. In his own series of 125 cases, the speaker encountered seven instances of concomitant eclampsia. The average mortality as regards the fetus or child was exceedingly high; in 80 per cent of the cases the mothers were pluriparas. The author had noted an increase in the number and in the gravity of the cases of premature separation occurring in recent years. In Rome, during the period from 1910 to 1922, there were sixty-eight cases with one death; from 1922 to 1927 there were forty-nine cases with six deaths.

The speaker then described the anatomic alterations that are most indicative of the condition and most frequently encountered. The pathogenesis is still obscure, especially in the type termed uteroplacental apoplexy. Prophylaxis is based on the necessity of early diagnosis and extensive hospitalization. The treatment must be selective. In about half of the cases operative intervention is not necessary. Before resorting to evacuation of the uterus, endo-uterine tamponade, compression of the aorta or abdominal bandaging should be tried. Pituitary gland preparations are useful. According to the speaker, also rupture of the bag of waters is not to be condemned under certain circumstances. In grave types, the only salvation lies in cesarean section, the use of which is becoming more common in Italy.

Various further communications on this topic were presented and developed. There followed a general discussion,

in which Professors Pestalozza of Rome, Micheli of Rome, Alfieri of Milan, and others, took part.

PROTECTION OF THE MOTHER

Professors Valagussa and D'Ormea presented the official papers on the third topic (Protection of the Mother). They advised the early admission of the mother to the maternity hospital and disapproved of waiting for the onset of labor pains. They advocated further the creation of maternity centers in sections where they are still lacking. They recommended also the organization of short, intensive courses of instruction in the care of mothers.

BERLIN

(From Our Regular Correspondent)

April 14, 1928.

A Procedure for the Early Diagnosis of Cancer

For some time past, various communications have been published on the discovery of a diagnostic procedure that is said to permit the recognition of cancer in its earliest stages by means of the application of a special staining method to the blood. As it would be of the greatest importance for the recognition and combating of cancer to possess such a method for early diagnosis, the "Ringold procedure" was immediately subjected to verification by Dr. E. Haagen in the cell research laboratory of the bacteriologic department of the Reichsgesundheitsamt (federal bureau of health) in Berlin-Dahlem. According to statements by the discoverer of the method, it is possible, by means of the procedure, to determine, within a few minutes, from a blood smear taken from the earlobe of the examinee and treated with a special staining and differentiating fluid, whether or not a cancerous disorder obtains. The decision is based on the principle that in the blood smear of a cancer patient, in contrast with that of a healthy person, the nuclei of the large lymphocytes and monocytes appear divided, and are often crushed together or overlap one another. Haagen, who publishes in the *Deutsche medizinische Wochenschrift* the results of his researches, states that many of the histologic researches are useful, but that they do not appear from his investigations to be utilizable for an early diagnosis of cancer or for the confirmation of a tentative diagnosis. He was unable to see that, in the number of cell divisions, there was any differentiation possible between the blood of cancer patients and that of cancer-free persons. According to the researches carried out in the Reichsgesundheitsamt, there is no logical connection between the very sparse occurrence of the cell divisions of the lymphocytes and monocytes, as demanded for cancer diagnosis, and a definite cancer picture. Nor is Haagen able to endorse the researches of those who have endeavored to confirm the usefulness of the procedure. The hopes that were aroused in the minds of the general public by premature announcements of the efficacy of the method have thus failed of fulfilment.

Sensitiveness of the Cancer Cell to Heat

B. Mendel, a former assistant of Professor Goldscheider, publishes in the *Klinische Wochenschrift* a study that may prove to be of considerable value in the treatment of cancer. Mendel has been studying for many years the question whether it is not possible to destroy cancer cells by high temperatures such as the surrounding healthy tissues would be able to withstand. In extensive experiments with surviving cancer tissue of rats, which had been removed from the organism, it was shown, in vitro, that important metabolism processes in cancer tissue are impaired by temperatures above 41.5 C.; that under such circumstances—though, in other respects, the conditions for life may be most favorable—the cancer tissue alone is killed by the heat. The nature of the damage to the cancer cells runs parallel with the elevation of temperature. At a temperature of 41.5 C., the cancer tissue is killed in twenty hours; at 42 C. in ten hours, and at 44 C. in three hours. It has been found human cancer tissue behaves in vitro in the same manner as that of the rat, and, since temperatures of 41.5 and 42 C. are compatible with the life of healthy human tissue, Mendel believes that a method that would produce such high and persisting temperatures would destroy cancer cells (cancerous tumors) in the body through the effect of heat. Mendel's researches suggest an intensive "fever treatment" of cancer, but not inoculation with a fever, after the manner of the treatment of general paralysis by inoculation with malaria, as introduced by Wagner-Jauregg, but a so-called "artificial hyperthermia," by means of physical agents, such as has recently been employed with great success in the Goldscheider clinic. As reported a short time ago by Walinski, before the Berliner medizinische Gesellschaft, it proved possible, through the application of hot baths, with subsequent use of the pack and sodium chloride, which prevent the development of perspiration, to produce temperatures above 41 C. and to hold such temperatures up to seventeen hours. In general paralysis, syphilis of the brain, and tabes, the results were at least as favorable as are secured by means of the customary inoculations with malaria or recurrent fever. It should be emphasized, too, that, with this new method, the fever can be regulated, so that there is no danger for the patient, whereas, in the inoculation method, it is beyond the power of the physician to control the fever in any precise manner. There is, therefore, a technical possibility that intensive fever treatment of cancer may prove practicable. Just how successful such treatment may be, remains to be seen.

Committee for the Prevention of Defective Hearing

A committee for the combating of defective hearing resulting from the noise in the various industries has been created by the Deutsche Gesellschaft für Gewerbehygiene (industrial hygiene), chairman, Sanitätsrat A. Peyser, Berlin. The committee constitutes a merger of the activities that are concerned with the prevention of defective hearing in the industries: medical and technical circles, boards of health, employers, industrial unions, and health insurance societies. The tasks that will be immediately undertaken are: preparation of a leaflet setting forth the dangers and suggesting modes of prevention, preparation of object lessons for the purpose of acquainting the public with the menace, the introduction of uniform methods for otologic examinations, the scientific development of muffling arrangements, and the invention of better methods of manufacture that will do away—at least in part—with excessive noise. Communications may be addressed to the Geschäftsstelle der Gesellschaft, Frankfort-on-the-Main, Viktoria Allee 9.

Observation Center for Ambulant Patients Affected with Hypersusceptibility

The Robert Koch institute for Infectious Diseases is planning to establish an observation center for ambulant (not bedridden) patients suffering from hypersusceptibility. Only such patients will be treated as are referred by physicians to the institute—for diagnostic and, in some instances, possibly, for therapeutic purposes.

Marriages

CYRUS H. ANDERSON, East Moline, Ill., to Mrs. Florence E. Ervin of Biggsville, at Cedar Rapids, Iowa, April 24.

WALTER H. MILBACHER, Aurora, Ill., to Miss Mary Jane Benson of Joliet, in Chicago, January 11.

WILLIAM TANDY RANDOLPH to Miss Martha Evelyn Patrick, both of Winder, Ga., March 31.

JOHN HOWARD ESBENSHADE, Lancaster, Pa., to Miss Martha Ruth Vollrath, April 17.

FREDERICK EPPLEN, Seattle, to Miss Ruth T. Merrill of Spokane, April 2.

Deaths

Eugene Boise, Grand Rapids, Mich.; University of Michigan Medical School, Ann Arbor, 1869; Medical Department of Columbia College, New York, 1870;; member and past president of the Michigan State Medical Society; past president of the Kent County Medical Society; formerly on the staff of the Butterworth Hospital; aged 81; died, April 7, of cerebral arteriosclerosis.

George Palmer Sampson, Winslow, Ariz.; Miami Medical College, Cincinnati, 1880; member of the Arizona State Medical Association; secretary of the Navajo-Apache County Medical Society; health officer of Winslow; on the staff of the Santa Fe Coast Lines Hospital; aged 73; died, March 17, of senility.

Evariste Clement Tremblay, Manchester, N. H.; University of Montreal Faculty of Medicine, Montreal, Que., Canada, 1887; member of the New Hampshire Medical Society; aged 68; formerly on the staff of the Hospital Notre Dame de Lourdes, where he died, March 9, of carcinoma of the liver.

Morris James Lewis ✠ Ambler, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1874; at one time member of the board of trustees of the University of Pennsylvania; formerly on the staffs of the Pennsylvania and Orthopedic hospitals, Philadelphia; aged 76; died, April 17.

Charles Wesley Bishop ✠ Minneapolis; McGill University Faculty of Medicine, Montreal, Que., Canada, 1895; member of the American Academy of Ophthalmology and Oto-Laryngology; formerly on the staff of the City Hospital; aged 54; died, April 19, of influenza and chronic myocarditis.

Lewis Elmer Pierce ✠ Clarksdale, Miss.; Memphis (Tenn.) Hospital Medical College, 1902; past president of the Clarksdale and Six Counties Medical Society; aged 49; died, April 20, in Memphis, of injuries received when the automobile in which he was driving was struck by a train.

Rodell Curtis Warne, Mitchell, S. D.; Rush Medical College, Chicago, 1887; formerly secretary of the South Dakota State Medical Association; veteran of the Spanish-American War; health officer of Mitchell; aged 64; died, April 12., of cerebral hemorrhage and diabetes mellitus.

Joseph Albert Boucher, Montpelier, Vt.; University of Vermont College of Medicine, Burlington, 1914; member of the Vermont State Medical Society; formerly on the staff of the Heaton Hospital; aged 38; died, March 14, of cerebral abscess, following sinus infection.

May Clare Robertson, Tallahassee, Fla.; Tulane University of Louisiana School of Medicine, New Orleans, 1924; member of the Florida Medical Association; college physician to the Florida State College for Women; aged 28; died, April 17, at Magee, Miss., of tuberculosis.

Charles W. Bachman ✠ Reading, Pa.; Jefferson Medical College of Philadelphia, 1881; past president of the Berks County Medical Society; for many years on the staff of the Reading Hospital; aged 71; died, April 11, of streptococcemia, following influenza.

Harrison Akers Wright ✠ Seattle; University of Oregon Medical School, Portland, 1888; formerly member of the state board of medical examiners; on the staff of the Columbus Hospital; aged 69; died, April 21, of a pulmonary abscess following a prostatectomy.

Anthony A. Rutz ✠ Brooklyn; Columbia University College of Physicians and Surgeons, 1899; member of the American College of Physicians; formerly on the staff of St. Mary's Hospital; aged 53; died, May 3, of arteriosclerosis and dilatation of the heart.

John Jacob Snyder ✠ Medical Director, Captain, U. S. Navy, Portsmouth, N. H.; College of Physicians and Surgeons, Baltimore, 1893; served during the World War; aged 58; died, April 19, in the Warner Hospital, Gettysburg, Pa., of pyelonephritis.

Thomas Patrick Walsh ✠ Middletown, Conn.; University of Vermont College of Medicine, Burlington, 1902; for twenty-five years health officer of Middletown; on the staff of the Middlesex Hospital; aged 51; died suddenly, April 21, of heart disease.

William Henry Daley, Chicago; Harvey Medical College, Chicago, 1903; University of Illinois College of Medicine, Chicago, 1909; aged 53; died, April 23, at the Mercyville Sanitarium, Aurora, Ill., of chronic arachnoiditis with cyst formation.

Samuel Davidson Nutt, Woodhaven, N. Y.; Bellevue Hospital Medical College, New York, 1886; member of the Medical Society of the State of New York; for eight years county coroner; aged 62; died, May 3, of cerebral hemorrhage.

Patrick Joseph Keegan, Albany, N. Y.; Medical Department of the University of the City of New York, 1875; formerly on the staff of St. Peter's Hospital; aged 86; died, April 22, of cerebral hemorrhage and arteriosclerosis.

William Jesse Emerson ✠ Lomax, Ill.; Rush Medical College, Chicago, 1888; president of the Henderson County Medical Society; county coroner; aged 59; died, May 2, at the Burlington (Iowa) Hospital, of coronary sclerosis.

Elden Leonard Sadler, Fort Collins, Colo.; Hahnemann Medical College and Hospital, Chicago, 1900; member of the Colorado Medical Society; aged 52; died, April 19, following an operation for perforated diverticulum of the sigmoid.

Otto Emil Prellwitz ✠ New York; Medical Department of Columbia College, New York, 1894; formerly on the staffs of the Columbus Hospital and the Manhattan Eye, Ear and Throat Hospital; aged 56; hanged himself, April 24.

Joseph A. Tabor, Pascagoula, Miss.; Medical Department of the Tulane University of Louisiana, New Orleans, 1898; member of the Mississippi State Medical Association; aged 57; died, March 7, in an infirmary in Atlanta, Ga.

Edwin Noah Hawley, Norwalk, Ohio; University of Michigan Medical School, Ann Arbor, 1881; on the staff of the Norwalk City Hospital; aged 72; died, April 19, at the Cleveland Clinic Hospital, of cerebral hemorrhage.

Sidney Renford Crabtree, Mount Pleasant, Texas; Vanderbilt University School of Medicine, Nashville, 1892; member of the State Medical Association of Texas; aged 61; died, March 25, of heart disease and chronic nephritis.

Benjamin R. Graham ✠ Wilmington, N. C.; University of Virginia Department of Medicine, Charlottesville, 1895; formerly secretary of the New Hanover County Medical Society; aged 59; died, April 18, of septicemia.

Joseph Reilly, Chicago, St. Louis Medical College, 1872; member of the Illinois State Medical Society; Civil War veteran; aged 79; died, May 2, at the German Deaconess Hospital, of myocarditis and diabetes mellitus.

William Thomas Coggin, Athens, Ga.; Western Reserve University School of Medicine, Cleveland, 1889; aged 57; died, in February, at Atlanta, as the result of an automobile accident which occurred about a year ago.

Ivan Petroff Balabanoff ✠ Tacoma, Wash.; Medical Department of the University of the City of New York, 1887; member of the Pacific Coast Oto-Ophalmological Society; aged 73; died, April 23, of heart disease.

Augustine Palmisano, Baltimore; College of Physicians and Surgeons, Baltimore, 1904; formerly demonstrator of pathology and histology at his alma mater; aged 51; died, April 27, at the University Hospital.

Anna Markley Reynolds, Los Angeles; Woman's Medical College of Pennsylvania, Philadelphia, 1885; formerly a practitioner in Philadelphia; aged 81; died, April 20, of lobar pneumonia and hemiplegia.

A. Clayton Rice, Whitewater, Wis.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1889; veteran of the Spanish-American War; aged 66; died, April 15, of carcinoma of the throat.

William Patterson Isley ✠ Hampton, Va.; Vanderbilt University School of Medicine, Nashville, Tenn., 1899; aged 55; died, April 22, at the Memorial Hospital, Richmond, following an operation for glioma.

Thomas Walter Reeves, Carrollton, Ga.; Chicago College of Medicine and Surgery, 1916; member of the Medical Association of Georgia; aged 41; died, April 7, at the Piedmont Hospital, Atlanta.

Charles Smith Wilsey, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1927; aged 26; intern, Hahnemann Medical College Hospital, where he died, April 19, of sarcomatosis.

Louis Edward Tieste ✠ Brooklyn; Dartmouth Medical School, Hanover, N. H., 1884; formerly on the staff of St. Mary's Hospital; aged 70; died, April 28, of carcinoma of the prostate.

Herman F. Whited, Owensboro, Ky.; University of Tennessee College of Medicine, Memphis, 1901; aged 49; died, April 22, at the City Hospital, following an operation for appendicitis.

Frederick Williamson Marcy, Camden, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1891; served during the World War; aged 62; died, April 20, of heart disease.

Jonathan Sebastian Coker, Arcadia, Fla.; Atlanta (Ga.) Medical College, 1914; member of the Florida Medical Association; aged 38; died, April 19, at Tucson, Ariz., of acute laryngitis.

Frederick Henry Daniels, Batavia, Ill.; Medical School of Maine, Portland, 1882; superintendent of the Bellevue Place Sanitarium; aged 73; died, March 19, of cerebral embolism.

William T. Graham ✠ Sunbury, Pa.; Jefferson Medical College of Philadelphia, 1889; on the staff of the Mary M. Packer Hospital; aged 65; died, May 2, of bronchopneumonia.

George M. Peabody, Wayland, N. Y.; University of Vermont College of Medicine, Burlington, 1885; formerly health officer and coroner; aged 69; died, April 15, of heart disease.

Robert H. Grassham, Caddo, Okla.; Miami Medical College, Cincinnati, 1890; member of the Oklahoma State Medical Association; aged 59; died, March 25, of angina pectoris.

Morton D. McEwen, Hedley, B. C., Canada; University of Manitoba Faculty of Medicine, Winnipeg, 1897; served during the World War; aged 58; died, February 24, at Princeton.

Andrew J. Dixon, Pope, Ky.; University of Tennessee College of Medicine, Memphis, 1892; member of the Kentucky State Medical Association; aged 76; died, April 26.

Peter Risdon Moore, Effingham, Kan.; Medical College of Ohio, Cincinnati, 1877; member of the Kansas Medical Society; aged 83; died, March 7, of cerebral hemorrhage.

Alexander J. Campbell ✠ Syracuse, N. Y.; Syracuse University College of Medicine, 1883; aged 72; died, April 20, at the Hospital of the Good Shepherd, of pneumonia.

Arthur G. Bretz ✠ New York; Central College of Physicians and Surgeons, Indianapolis, 1900; aged 55; died, April 17, of coronary sclerosis and chronic myocarditis.

Carlos F. Arroyo ✠ Tampa, Fla.; University of Madrid, Spain, 1915; aged 35; died, March 4, at the Tampa Municipal Hospital, of cerebral hemorrhage and chronic nephritis.

Edwin Hume, Kansas City, Mo.; St. Louis College of Physicians and Surgeons, 1896; aged 58; was killed, April 13, when he fell down a seventy foot staircase areaway.

Charles Ambrose Toole, Port Dover, Ont., Canada; Trinity Medical College, Toronto, 1886; for many years member of the board of education; aged 68; died, February 18.

Charles J. Bevan, Long Beach, Calif.; Medical Department Hamline University, Minneapolis, 1897; aged 64; died, January 29, of hemorrhage following a prostatectomy.

James W. Walton ✠ Benton, Ark.; University of Arkansas School of Medicine, Little Rock, 1892; aged 65; died, April 18, in a hospital at Little Rock, of heart disease.

Frank Ulysses Ferguson ✠ Gallitzin, Pa.; Medico-Chirurgical College of Philadelphia, 1890; aged 63; was found dead, April 23, of cerebral hemorrhage.

William Thomas Jefferson Bailey, Cassville, Mo.; Missouri Medical College, St. Louis, 1890; aged 58; died, April 2, in a hospital at Sulphur, Okla., of heart disease.

James Harry Potter ✠ New York; University and Bellevue Hospital Medical College, New York, 1900; aged 52; died, April 15, of nephritis and myocarditis.

John Ernest Affleck, Nelson, B. C., Canada; McGill University Faculty of Medicine, Montreal, 1916; served during the World War; aged 38; died, February 24.

William Elliott Parker, Hot Springs National Park, Ark.; Medical Department of the Tulane University of Louisiana, New Orleans, 1891; aged 60; died, April 26.

Guy Cecil Pardue, Mangham, La.; Memphis (Tenn.) Hospital Medical College, 1903; member of the Louisiana State Medical Society; aged 46; died, April 19.

J. T. Bomar, Mansfield, Tenn. (licensed, Tennessee, 1889; member of the Tennessee State Medical Association; aged 65; died, April 6, of cerebral hemorrhage.

William Braxton Winn, St. Louis; Medical Department of Columbia College, New York, 1878; veteran of the Spanish-American War; aged 71; died, April 17.

Frank L. Ramsey, Garland, Texas; University of Tennessee College of Medicine, Memphis, 1886; aged 69; died suddenly, April 21, of cerebral hemorrhage.

Edward Vaughn Granger, Burrillville, R. I.; Medical Department of Columbia College, New York, 1873; aged 78; died, February 29, of arteriosclerosis.

Frederick W. Fletcher, Geneva, Ohio; Western Reserve University School of Medicine, Cleveland, 1871; aged 77; died, April 6, at St. Augustine, Fla.

James B. Hughes, Anthony, N. M.; Chattanooga (Tenn.) Medical College, 1899; member of the New Mexico Medical Society; aged 57; died, April 10.

William Henry Allen, Joliet, Mont.; University of Buffalo (N. Y.) School of Medicine, 1880; aged 71; died, April 11, of pneumonia following influenza.

Elijah Fillmore Bingham, Amantha, N. C.; University of Tennessee College of Medicine, Memphis, 1891; aged 72; died, March 26, of influenza.

John Francis Kerins ✠ Providence, R. I.; Bellevue Hospital Medical College, New York, 1887; aged 67; died suddenly, April 18, of nephritis.

Edgar Hamilton Byrd, Chattanooga, Tenn.; Eclectic Medical Institute, Cincinnati, 1890; aged 66; died, April 10, of carcinoma of the liver.

Frank Trester Smith, Chattanooga, Tenn.; University of Michigan Medical School, Ann Arbor, 1882; aged 74; died, April 26, of influenza.

John B. Polly, Denver; College of Physicians and Surgeons, Keokuk, Iowa, 1896; aged 63; died, April 6, of heart disease, following pneumonia.

James W. Armstrong, Winnipeg, Man., Canada; University of Manitoba Faculty of Medicine, Winnipeg, 1893; aged 67; died, February 26.

Herman Meeske, Brooklyn; Long Island College Hospital, Brooklyn, 1899; aged 58; died, April 10, of arteriosclerosis and myocarditis.

Mortimer C. Northrop, Poughkeepsie, N. Y.; New York Medical College, 1857; aged 99; died, Dec. 29, 1927, of arteriosclerosis.

Mary A. Whitaker Williams ✠ Bay City, Mich.; University of Michigan Medical School, Ann Arbor, 1891; aged 74; died, April 1.

Nathan H. Carpenter, Eutaw, Ala.; Tulane University of Louisiana School of Medicine, New Orleans, 1898; aged 56; died, April 4.

Charles Dungan Carr ✠ Philadelphia; Jefferson Medical College of Philadelphia, 1888; aged 64; died, January 31, of myocarditis.

Neill MacRae, Littleton, N. C.; University College of Medicine, Richmond, Va., 1900; aged 50; died, April 14, of pneumonia.

Albrecht Loewit, New York; Eclectic Medical College of the City of New York, 1900; aged 69; died, April 30, of heart disease.

Alphonse David Aubry, Montreal, Que., Canada; University of Montreal Faculty of Medicine, 1873; aged 78; died recently.

Joseph H. Ray ✠ Coalton, Ohio; College of Physicians and Surgeons, Baltimore, 1885; aged 70; died, April 21, of angina pectoris.

Charles E. Lander, Alfred, Me.; Medical School of Maine, Portland, 1886; aged 66; died, April 17, of chronic endocarditis.

Nelson Erwin Peck, Winchester, Mo.; Kansas City Medical College, 1897; aged 63; died, April 13, of scarlet fever.

William Grant Hague ✠ New York; Medical Department of Columbia College, New York, 1895; aged 60; died, April 4.

Frank H. Cutler, Cedar Falls, Iowa; Chicago Medical College, 1882; aged 73; died, March 29, of cerebral hemorrhage.

James Rufus Duncan, Hopkinsville, Ky.; Meharry Medical College, Nashville, Tenn., 1904; aged 57; died, April 19.

George H. Milligan, Roundhill, Ky.; University of Louisville School of Medicine, 1872; aged 82; died, April 20.

William Ridgley Martin, North Baltimore, Ohio (licensed, Ohio, 1896); aged 88; died, April 20, of arteriosclerosis.

Baxter W. Begley, Inglefield, Ind.; Medical College of Evansville, 1876; aged 72; died, April 22, of senility.

John L. Heller, Topeka, Kan. (licensed, Kansas, 1901); aged 72; died, April 12, of chronic nephritis.

Howard Nason Freeman, Baltimore; Baltimore Medical College, 1912; aged 45; died, April 1.

George W. Carter, Abilene, Texas (licensed, Arkansas, 1903); aged 75; died, April 2.

Bureau of Investigation

ARMSTRONG'S OXYCATALYST

The Radium Research Foundation, Los Angeles, Offers a Treatment for Cancer

For more than seven months THE JOURNAL has been receiving requests for information regarding a new treatment for cancer, known as "Armstrong's Oxycatalyst" and put out by the Radium Research Foundation of Los Angeles, California. One of the first inquiries came from a San Diego physician, who stated that a former patient of his, operated on a year previously for cancer, was taking the "serum treatment" put out by the Radium Research Foundation. He said, further, that the x-ray and laboratory work was being done by a "Dr. Fortin"; that a charge of $210 cash was made for the first injection and $25 for each subsequent injection. In answering this physician's letter, THE JOURNAL stated that the only "Dr. Fortin" of which it had any record was one Edward Celestine Fortin, an osteopath and chiropractor, who seems to have practiced his arts variously in Iowa, Colorado and California, and who has been described in some of the newspaper clippings as the "dean of the Golden State College of Chiropractic."

Later, an inquiry came from the physician-superintendent of a county hospital in California, who enclosed a blank issued by the Radium Research Foundation and wrote that "Dr. Tinney, who states that he is connected with this foundation," had requested the hospital to use the Armstrong's Oxycatalyst on a patient in the hospital that Dr. Tinney had previously treated. The blank enclosed was for a case history, including the record of the microscopic and macroscopic examinations and of previous treatments. The bottom of the blank had a portion to be torn off and retained by the physician who was going to give the treatment. This part of the blank was for the patient to fill in and was a contract reading:

"To Dr. ————: I hereby request that you secure for me and administer to me a treatment of ARMSTRONG'S OXYCATALYST for which I agree to pay for as follows: $————, when notified that you are ready to administer same. Signed: ————."

Inquiries continued to come in and, in answering these, the Bureau of Investigation pointed out that medical literature was silent on the subject of Armstrong's Oxycatalyst for cancer, that the product had not been submitted to the Council on Pharmacy and Chemistry, and that what had been learned regarding the method of exploitation was not such as to inspire confidence. As a result of one of these answers, the bureau received a telephone call from Dr. Noble M. Eberhart of Chicago to the effect that, in his opinion, such letter did an injustice to Armstrong's Oxycatalyst. Dr. Eberhart asserted that he had first-hand information regarding this product and he was asked to send this information by letter, so that there would be no opportunity for misunderstanding or misinterpretation, such as is always possible with verbal reports.

On January 18, 1928, Dr. Eberhart wrote, outlining his experience with the Armstrong preparation. He stated, in effect, that while in California, the Oxycatalyst had been brought to his attention by Dr. Tinney, who at that time was the medical officer in charge of the federal hospital; that the preparation was the discovery, or invention, of Robert Armstrong, a chemist and physicist, who was said to have been connected with radium development for some time; that the Oxycatalyst "is a preparation made from radium, in which, through disintegration, if that is the proper word, the injurious beta and gamma rays are removed, leaving the alpha particles, which are capable of breaking down the protein of which malignancies are composed; that, in Dr. Eberhart's opinion, the Oxycatalyst is entirely harmless to normal cells; that the product comes in 9.5 cc. (about 2½ drachms) ampules, and is injected once in thirty days, three or four injections being the number required for an average case; that he (Dr. Eberhart) had tried out the Oxycatalyst in a case of angiosarcoma of the thumb, which had been diagnosed microscopically from section, and that, ten days after injection of the Oxycatalyst, the tumor had entirely disappeared without anything being applied locally.

Two or three days after receiving Dr. Eberhart's letter, a communication was received from a physician in an eastern state who enclosed some correspondence that had been received by the husband of a woman who was, apparently, suffering from malignant metastases following the removal of a carcinomatous breast. Several physicians had informed the husband that the prognosis was hopeless, but an acquaintance had given him the name of Dr. Eberhart as one who had "found a certain cancer cure." Naturally enough, the man got in touch with Dr. Eberhart, from whom he received a Radium Research Foundation blank and a letter stating that, as soon as the blank had been filled, he (Dr. Eberhart) would order the solution. The price charged for the first injection was to be $200, of which $100 was the cost of the ampule of Armstrong's Oxycatalyst. In another letter Dr. Eberhart explained: "I am going to New York in a couple of weeks to have control of the introduction of this solution."

About the time that Dr. Eberhart wrote to THE JOURNAL, a letter came from Dr. H. G. Daughters of Los Angeles. Dr. Daughters stated that he and a group of other local physicians were "running a group of cancer cases, using Armstrong's Oxycatalyst, with seemingly good results," and he asked that THE JOURNAL "withhold making any statements, either for or against this treatment, until after we have finished gathering our clinical data." Dr. Daughters stated, further, that cases were being treated in the Los Angeles County General Hospital, San Diego County General Hospital, James W. Wadsworth Hospital and the United States Naval Hospital at San Diego. In reply to Dr. Daughters' letter, he was told that, if the Armstrong Oxycatalyst were being used on hopeless cases and administered frankly as an experiment without charge, or with but a nominal charge, there might be some reason for withholding comment on the product, but that, apparently, this is not the situation.

Dr. Daughters was asked whether Armstrong's Oxycatalyst had been described in medical literature and he replied that he had seen no articles regarding the Oxycatalyst but that he had had numerous personal interviews with Robert A. Armstrong, whom he considered one of the outstanding radium physicists. He was also asked whether he knew the composition of Armstrong's Oxycatalyst, to which he replied: "I know that it is radium, reduced to Radium C', which emits or releases only the alpha ray of radium."

Dr. Daughters was also asked whether he explained to patients that the product is, at best, an experiment. The doctor replied that he always made clear to the patient that Armstrong's Oxycatalyst is a new product that had been used experimentally in Los Angeles for a few months, and that he considers it more successful than either elemental radium or x-ray in the treatment of cancer. To a further question, Dr. Daughters replied that he made no charge for the injection; that, in treating cancer patients who were not indigent, he charged merely his regular fees for taking care of them and, if they wished to have the Oxycatalyst, they paid for the dosage as billed him by the Radium Research Foundation. Dr. Daughters stated, further, that the Radium Research Foundation had never refused his request for free treatments to indigent patients and he had treated more than twenty-five such patients, and also had knowledge of a number of treatments furnished free to other physicians and hospitals. Dr. Daughters, in closing his letter, expressed the opinion that Armstrong's Oxycatalyst "is going to at least fill a long felt want in our profession."

Because the preparation had been used in certain public institutions, letters were directed to some of these hospitals in an endeavor to get reports on the matter. The United States Naval Hospital at San Diego, in answer to the inquiry, stated that three doses of the Armstrong's Oxycatalyst had been used in that hospital on three cases of cancer, and that the preparation had been brought to the notice of the hospital authorities by Dr. Lauris Blake Baldwin, who, apparently, is connected with the Radium Research Foundation. The letter stated, also, that the hospital had given no recommendations and made no reports, and that no future injections would be given.

The Los Angeles County General Hospital, in answer to a similar inquiry, reported that the hospital had a Malignancy Board, which decided diagnostic problems presented in each patient and suggested treatment. About two years ago the Board adopted the plan of employing any and all methods of treatment for inoperable cancer, for which definite claims were made, and that the situation regarding any proposed treatment is fully explained to the patient and the patient's consent obtained. The letter stated, further, that the Malignancy Board had tried out Oschner's "gold treatment" and Koch's "serum," besides a number of "paste treatments," and that none of these methods had given any results in the few patients on whom they had been tried. The letter then continued:

"On this same basis and at the request of many local physicians in Los Angeles County, the 'Armstrong Oxycatalyst' fluid has been administered to about fifteen terminal cases of carcinoma, both in this hospital and at the Los Angeles County Farm. The fluid has been given by the 'Radium Research Foundation' without cost to either the patient or to the county. In the majority of the patients, no apparent benefits or appreciable harm has been noted or determined. In a few, however, a marked amelioration and improvement in the general and local condition of the patient has resulted."

"The cases that have improved have been sufferers from both sarcoma and carcinoma and all were otherwise terminal cases. The number of these, however, has not been sufficient to make the Board feel inclined to issue any statement in its favor and this has not been done. The Board has also insisted that the permanency of the improvement in these few patients still remains a matter for the future to demonstrate. The Armstrong people seem to be willing to leave this part of the subject to the judgment and experience of the Malignancy Board."

The National Home for Disabled Volunteer Soldiers, in reply to THE JOURNAL'S letter, stated that Robert A. Armstrong and his partner, Merle G. Farnsworth, said to be the owners of the Radium Research Foundation, had offered to furnish samples of the Armstrong's Oxycatalyst for use in the cancer service of the hospital. Messrs. Armstrong and Farnsworth are said to have assured the hospital authorities that the product had been thoroughly tested from the standpoint of safety, and that the product "contained the alpha rays, with the beta rays filtered out." The hospital reported that the treatment had been used mainly in inoperable cases, first explaining to the patient that the treatment was experimental. A summary of the results, as given in the letter, reads:

"We have used this treatment over too short a period and on too few patients to feel justified in making any definite statements in Case Reports. We have, however, been sufficiently encouraged over some apparently promising results to feel justified in continuing the treatment longer, providing the Radium Corporation keeps their faith with us in regard to the ethical handling of the preparation."

From other sources, it appears that, in addition to the Oxycatalyst, the Radium Research Foundation puts out a product known as "Radium-Sol," which is reported to be "the great gland activator and oxygenizer of the blood." This product, it seems, is not sold for injection purposes to physicians, but is a "patent medicine"—that is, a package remedy with a proprietary name sold through the drug stores. It is said to contain a certain amount of "non-equillibrated elemental radium" in solution. It appears to be recommended for various conditions, from arteriosclerosis, asthma, bronchitis to goiter and loss of vitality.

Reverting again to the Oxycatalyst: There has appeared recently, in San Diego newspapers, two articles puffing Armstrong's Oxycatalyst, described in the articles as "Armstrong's fluid." The first article purports to be the report of an interview with Mr. Armstrong, who describes his experiments in the treatment of human cancer and tells how he worked out his "fluid." The second article purports to be a report of interviews with Drs. Charles M. Tinney and Stanley Boller. Dr. Tinney was reported as declaring that he had personally seen 200 to 300 cases of cancer; that only Mr. Armstrong "knows all the ingredients of the fluid" and that, while it was too early to predict that the product was a positive cure, it was, in the opinion of Dr. Tinney, "a remarkable treatment."

In the promotion of Armstrong's Oxycatalyst, there is being used a "Preliminary Report on Armstrong's Oxycatalyst treatment for Cancer," by Dr. Charles M. Tinney. According to this, the Oxycatalyst "is a radium derivative which Prof. Armstrong has combined with a catalyzer." Further:

"Thus far the Oxycatalyst is a secret preparation and its formula will not be announced to the profession until such a time as further research data is accumulated concerning the nature and growth of cancer and in any event not until chemists have been trained to properly compound it, for great care and skill are required in its manufacture. In any event it is optional with the discoverer as to what future disposition he wishes to make of it insofar as it is made available to those suffering from malignancy."

In the report it is stated that statistics compiled in over 200 cases, 95 per cent of which were terminal or end-result cases, gave the following figures:

"Ten per cent relieved (pronounced by observing doctors as relieved of all symptoms).
"Fifty-two per cent improving (several of these are almost at the stage where they can be pronounced free of all symptoms).
"Six per cent not improving.
"Two per cent lost track of.
"Thirty per cent deaths."

The report takes the position that cancer is "a protein mass in which the sulphur, phosphorus and nitrogen are out of their normal valence and therefore are foreign to the general protein of the body" and that the action of Armstrong's Oxycatalyst is that of dissolving and digesting the cancer mass.

Here, then, are such facts as seem to be at present available regarding Armstrong's Oxycatalyst for Cancer. Just why, if this preparation is supposed to have a scientific background and to be used in an ethical manner, its exploiters have not seen fit to submit the preparation to the Council on Pharmacy and Chemistry is for them to answer. Just why, if the product is still in the experimental stage, it should be necessary to have agencies for the product is not altogether clear. Whether Mr. Armstrong's preparation is an addition to the medical armamentarium in the treatment of cancer or just another "cancer cure," is yet to be determined.

Correspondence

"PULMONARY TUBERCULOSIS ASSOCIATED WITH BRONCHIAL OBSTRUCTION"

To the Editor:—A clinical note on this subject in THE JOURNAL, April 21, concerns a 3 year old child, who became suddenly ill and after ten months developed meningitis and died. A diagnosis of miliary tuberculosis was made. The most striking feature is the frequent negative Pirquet tests. These tests were from the beginning positive signs of a disseminated tuberculosis. Even a tuberculin test made some months before the sudden onset would in all probability have been negative. The infant from the onset was tuberculotoxic and in that state it is impossible for the body, with added tuberculin, to produce an allergic reaction, and the negative reaction pointed definitely to an active tuberculous condition.

In the tuberculously infected, in the patient suffering from localized disease and in pulmonary tuberculosis, not too progressive or too far advanced, the tuberculin test is always positive and the test remains positive only as long as the body is able to offer a defense against the invaders and its toxins. It is no longer positive when the tuberculotoxins given off by the bacilli have permeated the entire body and the organism has ceased to offer resistance. In the former, the epithelial layers of the skin contain modified, dissociated, changed or altered tuberculin derived from bacillary growths. This is always present and, if to this body tuberculin now artificial tuberculin is added, an allergic reaction results. This is known as the tuberculin reaction or test but not so in the latter state, in which the tuberculin from the bacillary growth is no longer undergoing a change, is no more modified. If to such an organism artificial tuberculin is added, no reaction will follow because the tuberculin produced in the body and the added tuberculin are now identical. The

infant mentioned in this case was undoubtedly toxic from the beginning of observation; hence the tuberculin test always gave a negative reaction.

I offer this comment simply in the interest of the general practitioner, the internist, who must know how and when to use tuberculin, when to anticipate a reaction, and how to interpret these allergic observations.

JOHN RITTER, M.D., Chicago.

"THE PASSING OF THE PESSARY"

To the Editor:—The editorials in THE JOURNAL are of a high order and do a great deal of good through the influence which they undoubtedly have. Therefore I am taking this occasion to express my disapprobation of an editorial on the "Passing of the Pessary," which appears in the number for April 14. This editorial is a wonderful argument against the separation of obstetrics from true gynecology in teaching and practice. As I am in charge of two hospital gynecologic services I am not afraid that it will be thought that I am averse to operation whenever there are real indications. Certain statements in this editorial, however, are so at variance with those held by a number of expert obstetricians and gynecologists, and so diametrically opposed to the teaching given in my department in the Graduate School of Medicine of the University of Pennsylvania, which department includes both obstetrics and gynecology, that I feel impelled to enter objection.

Whether or not the stem pessary in its more recent modification is a valuable adjunct in the treatment of dysmenorrhea and sterility may be a matter of opinion. I myself do not favor its use for these conditions but I know men of great skill who still believe that in properly selected cases it has value. This, however, is simply a side issue. If the remarks in this editorial had been limited to the stem pessary, they would never have called forth a reply from me.

The writer says that "the conditions for the successful use of the pessary presupposed that the perineum was firm enough to support it, which is an unusual condition when the pessary is needed, and that the pessary should not exert pressure, which eliminated most of the cases of retroflexion." These statements are amazing. Any obstetrician can show a long series of cases following delivery and at other times during the life of the woman, in which a complete retroflexion is found with a perineum amply able to support a pessary. Except in a few unusual instances it is perfectly possible to mold a pessary in such a manner that no pressure at all is exerted. If a woman is conscious that she has a pessary in situ, this is absolute evidence that it is not fitting. I am not in favor of the use of the pessary after the child-bearing period is completed, or during the child-bearing period if a woman has definitely renounced the idea of more children; but any obstetrician who gives suitable postnatal care knows the value of the pessary in aiding involution of the uterus and its ligaments after the retrodisplacement has been corrected subsequent to delivery, and also knows full well that there is a non-negligible percentage of cures in such cases. To make the statement that "the indications for its use apparently include *occasional* cases [italics mine] of retrodisplacement of the uterus after pregnancy" is misleading, since, no matter what methods of exercise or bed posture following delivery may be used, the incidence of retrodisplacement is one of the most commonly discovered sequelae following delivery, provided the patients are examined over a sufficiently long period of time.

I also take exception to the statement that "it has been found unnecessary to treat a uterus in malposition unless undesirable symptoms definitely related to the malposition are present." I am convinced from long experience that no multiparous woman can be considered in normal condition if her uterus is retrodisplaced, even though at the time of examination there are no evident symptoms presented. The pessary is not the least of the prophylactic medicinal agents. It is perfectly true that surgery by the perfection of its aseptic technic does offer the quickest and surest form of treatment of malposition of the uterus, but it is beyond my comprehension how any man with a combination of gynecologic and obstetric training can advise a woman during her active sexual life to have surgical intervention which may be readily nullified by subsequent pregnancy. I am not in a position to deny the statement that "few of the newer generation of medical men have ever used a pessary"; this statement is evidently based on elicited opinions, but that it is true of the general run of experts in this field is to me unthinkable. If it is true, it is to be greatly deplored. No one can be more insistent than I that the obstetrician of today must be a pelvic surgeon in active practice in order that he may be a safe obstetrician, but there is a great difference between the surgical carpenter and the expert possessing good judgment. Operating for the sake of operating has no place in the make-up of men trained both in obstetrics and in gynecology.

WILLIAM R. NICHOLSON, M.D., Philadelphia.
Professor of Gynecology and Vice Dean for Gynecology-Obstetrics, University of Pennsylvania Graduate School of Medicine.

SPECIFIC READING DISABILITY —STREPHOSYMBOLIA

To the Editor:—Having read with much interest the article by Dr. Samuel T. Orton (THE JOURNAL, April 7, p. 1095) entitled as above, and finding, throughout, the evidence of careful psychologic study as well as of shrewd clinical insight, I am the more surprised at one or two examples of what, to me at least, appear as instances of faulty logic, medical as well as dialectic. Thus, as to the general assumption that defective readers are generally also mentally defective, we note the following: "Very often the logic of this explanation forms a typical vicious circle. The child is said to be feebleminded *because* he cannot learn to read, and his inability to learn to read is said to be *because* he is feebleminded" [italics, mine]. Surely, here is a dialectic straw man—erected quite unintentionally I am willing to believe—which Dr. Orton then upsets. The fallacy or catch is in the word "because" or, rather, its association. Let us merely restate the proposition as follows. "Because he cannot learn to read, the child is said to be feebleminded; and his inability to learn to read is said to be because he is feebleminded." No vicious circle here, at all, but a thoroughly logical statement, in fact, a somewhat tautological restatement. *"Because,"* in the original form, referred to *"is said,"* not to *"is feebleminded."* Further on, we find another instance of faulty logic in the assumption of a brain lesion as a cause of loss of reading function. Loss of tissue produces loss of function, but there is nothing in logic, medical or otherwise, which causes or even allows us to assume that loss of function *necessarily* implies loss or destruction of tissue. I, for one, should object to the strephophrasie, or word twisting, inherent in Dr. Orton's suggestion that for the well understood and generally accepted title of congenital word blindness, which characterizes a clinical complex, we substitute strephosymbolia, descriptive (?) of a single symptom, the pathologic provenience of which is quite hypothetic and assumed. Of the tests of reading ability in relation to intelligence, Dr. Orton says, "The standards or norms have been determined by application to a large series of children of whom presumably only a small proportion had

any reading disability, and hence the standard is an unjust one for them." Would not this apply to a test of weakness in hand grips, for instance, or of inability to walk? Surely, here too, the standards "have been determined by application to a large series of whom only a small proportion had the disability in question." Aside from these little verbal discrepancies, Dr. Orton's paper is really valuable for the light it sheds on a rather puzzling clinical entity, and, above all, for his valuable practical suggestions as to treatment, or rather as to what really amounts to reeducation.

PERCY H. FRIDENBERG, M.D., New York.

STATE SUPERVISION OF PRIVATE HOSPITALS AND NURSING HOMES

To the Editor:—Your readers may be interested in a recent development in New Jersey relating to private hospitals and nursing homes. Throughout the country such agencies are, for the most part, as you are aware, without inspection and supervision by public authorities and in many instances the credulous public pays large fees for inadequate service. In some instances, the type of work done in these institutions has been unethical. New Jersey has had a law providing for the inspection and licensing of nursing homes, but the act gave no adequate powers to the department of institutions and agencies controlling unethical or inadequately equipped and administered institutions of this sort, nor did the law appear to reach the "private hospital" unless the term "nursing home" was construed in the light of the nursing home in England.

At the recent session of the legislature the original act was amended to include "the licensing of private nursing homes and private hospitals for the care, treatment and nursing of persons ill with disease or who are crippled, infirm or in any way afflicted, and provided penalty for the violations thereof." There are exempt from the provisions of the act "any hospital, home or institution conducted by or for the members of any religious body or denomination, or legally occasioned fraternal charitable association." It will thus be seen that any nursing home or private hospital conducted for profit comes under the operation of the act and the penalty of operating without a license is "$500 or imprisonment for six months, or both."

The inspectional program is under the direction of the medical division of the State Department of Institutions and Agencies, of which William J. Ellis is commissioner.

ELLEN C. POTTER, M.D., Trenton, N. J.
Medical Director, Department Institutions and Agencies.

DISTRIBUTION OF BROAD TAPEWORM

To the Editor:—The recent article by Vergeer (THE JOURNAL, March 3, p. 673) prompts me to call attention to my experiments on *Diphyllobothrium latum,* the broad tapeworm (*Minnesota Med.* **10**:614 [Oct.] 1927). Since my report was the first demonstration of the fact that North American fishes act as hosts for this worm, Vergeer's report may be looked on as confirmation of my observations. In my report it was indicated that I had evidence of the fact that there was an endemic area in and about Winnipeg, Manit. Since then I have obtained wall-eyed pike from Lake Winnipeg and have found larvae in a great percentage of them, which when fed to dogs produced typical tapeworms of the species *D. latum.* The importance of this is apparent when one learns that a great proportion of the wall-eyed pike sold in the middle western markets come from Canadian lakes and that a large proportion of the fresh fish sold on the Winnipeg market come from this lake.

THOMAS B. MAGATH, M.D., Rochester, Minn.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

EXPLOSIVENESS OF ETHYLENE

To the Editor:—We have been using ethylene for the past four years, and use more than any one hospital in the state of Oregon. We have found it satisfactory so far. Within the last month we have had two visiting physicians from the East who stated that there have been quite a number of explosions which were fatal to patients. It has made our doctors here doubtful about using it. We are inclined to think that it is just talk. Would you kindly let us know where and what was the cause of the explosions, and what precautions to take while using ethylene? We avoid using it where there is an electric spark or a light of any description, that is, outside of an electric spark light.

AGNES M. MCGEE, Portland, Ore.

ANSWER.—Several ethylene explosions have been reported but, so far as we have been able to ascertain, only two have been fatal. The greater number of explosions have been due to electrostatic conditions and have occurred during the winter months. Nevertheless, one was due to a gust of wind blowing the flame from an alcohol lamp on a dentist's instrument table in the direction of the ethylene mask and some have been due to a cautery being brought in close proximity to the point of administration.

Ethylene is an inflammable gas; it should not be used in the presence of a cautery, open flame, or any electrical apparatus capable of producing a spark from any cause. By complete grounding to control electrostatic charges, ethylene can be made free of danger from explosions. A system of grounding which has proved efficient was described in THE JOURNAL, Dec. 5, 1925, p. 1798.

OBSTETRIC INDICATIONS IN PRESENCE OF HEART DISEASE

To the Editor:—A primipara, aged 19, who has congenital heart disease, is just ending the eighth month. Pulmonary edema is marked. Is it safe to hasten labor under the circumstances, or is it best to let her go full time?

M.D., Georgia.

ANSWER.—Since this patient is near term it is best to treat the heart condition and leave the pregnancy alone. An attempt should be made to restore compensation. Labor will most likely soon begin spontaneously. It is important to try to secure compensation before labor sets in.

REMOVAL OF MOLES

To the Editor:—Please give me the technic of removing moles with carbon dioxide snow and with liquid air and tell me where I can secure carbon dioxide snow and also liquid air. Please omit name.

M.D., West Virginia.

ANSWER.—Freezing with carbon dioxide snow, or liquid air, is not the best method of removing moles. It removes them very slowly, requires frequent repeated treatments, and is not to be recommended. A much better way to remove them is either by burning them off with a small actual cautery or excising them. They can also be treated by destruction by electrolysis, with the ordinary needle for epilating hairs.

LIVER IN SECONDARY ANEMIA

To the Editor:—Will you kindly advise if there is any clinical evidence to support the use of liver diet or liver extract in anemias other than pernicious? Kindly omit name.

M.D., California.

ANSWER.—There is clinical evidence both for and against the effectiveness of liver diet in anemias other than the pernicious type. Among favorable reports is that of T. P. Murdock (Rich Liver Diet in the Treatment of Anemias with Reports of Cases, *Ann. Int. Med.* **1**:123 [Sept.] 1927). An unfavorable report is registered by I. C. Brill (The Specificity of the Minot and Murphy Diet in Pernicious Anemia, THE JOURNAL, Oct. 8, 1927, p. 1215). Brill compares results in four cases of secondary anemia with results in ten cases of pernicious anemia. A monograph by A. H. Smith (Acute Aplastic Anemia: Its Relation to a Liver Hormone, Report and Observations on Case Treated by Injections of Liver Extract, London, H. K. Lewis & Co., Ltd., 1928) contains material relevant to the subject. An attempt to deal briefly with this question, on the basis of earlier work than that just cited, was made in Queries and Minor Notes (THE JOURNAL, Nov. 19, 1927, p. 1803).

DOSAGE OF PARATHYROID AND USE IN TONSILLECTOMY

To the Editor:—Would you kindly give me your opinion in regard to the use of parathyroid extract in respect of the following: 1. What is the usual dose? 2. Do ill results follow its use? 3. Would it be considered good practice to use this product prior to tonsil operations as a routine measure? Please omit name. M.D., Iowa.

ANSWER.—1. Doses of parathyroid extract-Collip (New and Nonofficial Remedies, 1928, p. 299) vary from 10 to 15 units, the latter being given to persons weighing more than 110 pounds (50 Kg.). In order to be at all effective, the parathyroid extract must be given hypodermically and not by mouth.

2. So far as we are aware, unless used in very large amount, bad results will not follow its use.

3. It hardly seems to be necessary that these injections be given as a routine measure before tonsil operations, since calcium lactate may be taken by mouth in fairly large doses some days before the operation to increase the clotting time of the blood. It should be remembered that it is not necessarily the clotting time but the bleeding time of the patient which is perhaps of great importance.

COMPARISON OF ULTRAVIOLET SOURCES

To the Editor:—Kindly send me information relative to the difference between the carbon arc lamp and mercury quartz lamp, in regard to physiologic effects. M.D., Chicago.

To the Editor:—Please advise me about the relative advantages and disadvantages and the limitations, therapeutically, between the quartz mercury arc lamps and the carbon arc lamps. Please omit name. M.D., Bronx, N. Y.

ANSWER.—The physical characteristics of the sources of ultraviolet rays can be readily compared, but no estimate of their relative therapeutic efficacy can be based on physical measurements alone, for there is no available information on which to base any transformation constants which can be used to convert physical measurements into therapeutic effect.

Coblentz, of the Bureau of Standards, measured the total energy delivered in different zones of the spectrum by the sun, by the mercury vapor arc in quartz and by various carbon arcs. In the following table, based on data presented in the Bureau of Standards scientific paper 539, the total energy delivered by the quartz mercury vapor arc in the zone 1,800 to 3,100 angstrom units has been taken as 100 per cent:

Measure of Energy from Various Sources

Source of Radiation	Thickness of Electrode in Mm.	Volts, A C or D C	Amperes	Relative Intensity, 1,800 to 3,100 A U Q Hg Vapor Arc as 100%
Sun, sea level (Washington)	..	..	..	1,186
Sun, 7,000 ft. elevation (Flagstaff, Ariz.)	..	..	..	1,705
Quartz Hg Arc	..	78 d	4	100
Gas filled Tungsten lamp	..	115 d	12.7	0
Neutral core carbon	6	50 a	5	1.48
Neutral core carbon	12.7	65 a	26	98.5
(Dochtkohle)	7	46 a	10	5.66
Nickel core	6	38 a	10	12.8
Nickel core	10	60 a	29	581.0
White flame (pair)	10	30 x 2 a	10	52.0
White flame (pair)	10	35 x 2 a	20	237.0
White flame	12.7	58 a	30	608.0
White flame, positive	12.7	70 d	90	530.0
Orotip, negative	11.1			
Blue flame	10	50 a	16	40.0
Blue flame	12.7	58 a	29	688.0
Yellow flame	12.7	55 a	30	643.0
Red flame	12.7	56 a	30	266.0

From this table, however, one cannot arrive at any estimate of the relative biologic efficacy of these various sources. Although two sources may deliver the same total energy in the antirachitic zone, the effect of equal time exposures to them would not be the same unless the spectral energy distribution curves of these sources were the same. This is due to the fact that the sensitivity of a patient is not constant for all wavelengths of ultraviolet energy. In this way we can account for the fact that the action of a quartz mercury vapor arc is much faster than that of the sun in spite of the fact that the total energy delivered by the sun in the zone 1,800 to 3,100 angstrom units is twelve times as great as that delivered by the quartz mercury vapor arc in the same zone. The energy of the sun is concentrated in the upper limit of this zone where man's sensitivity is low, whereas the greater part of the energy of the quartz mercury vapor arc is delivered in that part of the zone where man's sensitivity is much greater.

Clinically, however, excellent results have been reported to have been obtained from all three sources. Doubtless, further study will show that each source may have advantages not possessed by the others.

See article on page 1595, this issue.

POSSIBLE INTERCOSTAL NEURITIS

To the Editor:—Can you give me any practical helps in the treatment of a case of severe prolonged thoracic pain, following an unusually severe case of herpes zoster? A woman, aged 72, whose general health had been only fair but without any determinable organic lesion, in August, 1927, had an attack of herpes zoster in the left thoracic region, over almost the entire chest, front and back. The acute symptoms lasted for about a month, and she still suffers intensely with pain through the left side. The usual local remedies have little palliative effect, and there are no local lesions. Can you suggest anything, internal or external, that would be of benefit? Would heat locally, as an electric pad, be worth trying? Is the ultraviolet lamp of any benefit? M.D., Massachusetts.

ANSWER.—The patient seems to have a form of intercostal neuritis. While there may be no question of a vertebral lesion with pressure symptoms radiating along the course of the outer costal nerve, it would be wise to investigate such a possibility. Treatment otherwise is entirely symptomatic and consists in the use of one of the analgesics, as amidopyrine or the salicylates, for subjective relief. Diathermy in small doses might be used daily or every other day. The value of ultraviolet rays is questionable. Heat in some forms such as moist applications or an electric pad may be of value. If there are no superficial lesions, strapping of the chest may be tried.

KERATIC PRECIPITATES OR POSTERIOR PRECIPITATES

To the Editor:—In a review of the book by Humphrey Neame (THE JOURNAL, March 3, p. 717), you state that "K. P." signifies "keratic precipitates" instead of the proper nomenclature "posterior precipitates." It has been my understanding, according to Fuchs, and by the later work of James Moores Ball, that K. P. means keratitis punctata, or descemetitis. I have been unable to locate any work in ophthalmology using "posterior precipitates." Would you please offer citations? Of course, the masses on the inner corneal surface in inflammatory conditions of the iris and ciliary body come primarily from the ciliary body and are deposited on the posterior corneal surface, but I cannot understand the origin of the terms used and the criticism. Please omit my name. M.D., Indiana.

ANSWER.—Fuchs (Textbook of Ophthalmology, chapter on diseases of the iris) says: "A form of exudate that is found in many, especially the chronic cases of inflammation of the ciliary body are the precipitates (deposits) on the posterior surface of the cornea. . . . They were formerly thought to be located in the cornea itself." The older English ophthalmologists recognized the presence of such exudative masses but considered that they were located within the cornea proper instead of on the posterior surface and termed the masses "keratitis punctata," abbreviated to K. P. Collins and Mayo (Pathology and Bacteriology of the Eye, ed. 2, 1925, p. 435) say: "The tendency of the lymphocyte and plasma cell to run into nodules is well seen in the formation of follicles and also in the formation of small masses on the back of the cornea known as keratitis punctata." Again, Neame and Noble (page 158) say: "The physical sign of paramount importance in inflammation of the ciliary body is the presence of keratic precipitates, or 'K. P.' . . . Particularly larger deposits of a whiter color are referred to as 'mutton-fat K. P.'"

The sequence of events seems to be as follows: The older English ophthalmologists recognized the presence of gray dots in inflammations of the ciliary body but believed them to be infiltrations within the cornea proper and termed them keratitis punctata, abbreviated to K. P. That abbreviation has become a household word in English ophthalmology. When the true nature of the dots was recognized as a collection of exudate cells on the posterior surface of the cornea, the Germans called them Prezipitäte auf der hintere Fläche der Hornhaut (Axenfeld: Lehrbuch und Atlas der Augenheilkunde), which was translated into "precipitates on the posterior surface of the cornea" and shortened to "posterior precipitates." But K. P. was so ingrained into English ophthalmic diction that a term had to be found to describe the condition and at the same time fit with those letters; hence "keratic precipitates."

MILK INJECTIONS FOR GONORRHEA IN WOMEN

To the Editor:—Please give the use of milk injections in the treatment of gonorrhea in women. In what cases are they used? What preparations are used, where are they obtained, and what is the technic? Please omit name.

M.D., New York.

ANSWER.—For the injections referred to, boiled cow's milk is used. Ten cubic centimeters of the milk is injected in one of the gluteus muscles. The needle must be long enough to insure penetration through the subcutaneous fat.

The needle is inserted detached from the syringe and its distal end watched for the appearance of blood. If that should be observed, the needle should be withdrawn and inserted into another spot. In this way injection into a blood vessel is avoided.

The safe insertion of the needle is followed by the attachment of the syringe charged with the milk and the fluid is slowly injected. The pain following the injection is best relieved by vibration massage.

These injections are occasionally followed by local reaction and invariably by pronounced general reaction evidenced by fever, increase of pulse rate and general malaise. Cardiac disturbances and general arteriosclerosis form contraindications against this therapy. If a repetition of the injections is deemed advisable, any subsequent injection is not administered until the reactions have entirely subsided.

In acute gonorrhea decided results are the exception; in chronic cases the results are more uniform but should always be considered as an aid only to the administration of all the other therapeutic measures indicated.

The main value of the injections of milk lies in their provocative action, helping to establish the presence of a latent infection or making a definitive cure highly probable.

Methods for preparation of mild injections ("Improved Technic for Protein Therapy," and "Mild Injections Without Local Reactions") appeared in THE JOURNAL, May 6, 1922, p. 1427, and Nov. 8, 1924, p. 1505.

TESTS TO DETERMINE FATHERHOOD

To the Editor:—Will you please report the tests to determine the illegitimate fatherhood of a child for legal satisfaction?

PAUL V. JOYCE, M.D., Chicago.

ANSWER.—The tests consist merely in the determination of the blood group (Blood Grouping of Parents and Children, THE JOURNAL, Oct. 29, 1927, p. 1518) of the child, of the mother, and of the alleged father, definitely, so that neither method nor results are assailable. If the child has an agglutinogen (A or B substance [New Designations for Blood Groups According to Iso-Agglutinins, THE JOURNAL, April 30, 1927, p. 1421]) which is not present in at least one of the parents, the man in question cannot be the father of this child by this mother (Snyder, L. H.: Studies in Human Inheritance, THE JOURNAL, Feb. 19, 1927, p. 562). The tests cannot, therefore, prove that a certain man is the father of a certain child, but may show in favorable cases that the man accused cannot be the father.

STERILIZATION OF NEEDLES PREVIOUS TO IMMUNIZATION

To the Editor:—1. What is the proper sterilization of needles when giving immunizing serums to school children? I advised the use of a small electric sterilizer but the health nurse refused to aid in the clinic if it was used, her method being to dip needles in rubbing alcohol. 2. Are there any statistics as to the prevalence of diphtheria among children immunized by injections of diphtheria toxin-antitoxin and those not so immunized? 3. Is there any danger in giving immunizing toxin-antitoxin soon after a prophylactic dose of antitoxin (diphtheritic), or is there a time interval? Is there danger in giving a curative dose of diphtheria antitoxin after immunization with toxin-antitoxin?

J. F. EASTON, M.D., Romney, W. Va.

ANSWER.—1. In immunizing school children, the preparations commonly used are diphtheria and scarlet fever toxins. Care is necessary to keep away from these toxin preparations chemical substances that may precipitate them or destroy their potency. Among the substances that precipitate these toxins is alcohol. The use of alcohol in attempting to sterilize syringes or needles may interfere both with skin tests to determine susceptibility and with immunization. Besides its deleterious action on toxin, alcohol is not effective in sterilization of syringes or needles, as shown repeatedly by bacteriologic tests. The best way to sterilize needles and syringes for such work is to boil them in distilled water. In making skin tests the distilled water which remains in the needles and syringes after boiling should be rinsed out with some of the skin test solution before injection. Distilled water is preferable to tap water because tap water frequently contains alkali, which causes deterioration of the dilute solutions of toxins used in skin tests.

2. There are statistics regarding the prevalence of diphtheria among children immunized by injections of diphtheria toxin-antitoxin and those not so immunized. The practice of using commercial preparations of diphtheria toxin-antitoxin without previously testing them for potency, and the failure to make Schick tests after the three doses of toxin-antitoxin have been given, probably make these statistics less favorable than they would be if tested materials were used and Schick tests were made after immunization. But even without these precautions the statistics indicate that immunization against diphtheria is effective in the majority of cases.

3. Theoretically there should be no danger at all in giving toxin-antitoxin within a few days after the injection. Accidents due to sensitization to horse serum by diphtheria toxin-antitoxin are rare in actual practice, but it is always advisable when horse serum has previously been given in any form, including diphtheria antitoxin and diphtheria toxin-antitoxin, to desensitize before any preparation containing horse serum is injected again.

SALICYLIC ACID AND MERCURY OINTMENT FOR DANDRUFF

To the Editor:—I have been using a prescription which I believe I copied out of THE JOURNAL some years ago. In the course of moving I lost the prescription and am not sure of the amounts involved. Kindly put me right on this. It was used against dandruff and is composed of salicylic acid, ammoniated mercury and ointment of rose water. Kindly omit name.

M.D., Norristown, Pa.

ANSWER.—The ointment to which the correspondent probably refers can be made up in the following strengths:

Salicylic acid, 1 to 2 Gm. (15 to 30 grains).
Ammoniated mercury, 2 to 4 Gm. (30 to 60 grains).
Rose ointment to make 25 Gm. (1 ounce).

This is a useful application for ordinary dandruff. It should be applied by parting the hair and rubbing the ointment into the scalp lightly from one to three times a week. When the hair gets uncomfortably greasy, say in five days to a week, a shampoo with ordinary toilet soap or a tar soap should be taken. A liquid tar soap makes as nice a shampoo as any.

PARONYCHIAE—BREAST ABSCESS—LEAD WATER AND LAUDANUM SOLUTION

To the Editor:—1. During the past three months I have had three paronychiae at the base of my finger nails. It has been necessary to have them incised widely and drained. One started as soon as the previous one became better. Could these be due to focal infection? Is there any abortive treatment for them? Would vaccines, roentgen ray or any form of lamp treatment do any good? 2. Is there any local abortive treatment for breast abscess? 3. Does lead water and laudanum solution have any real therapeutic value? Please omit name.

M.D., Pennsylvania.

ANSWER.—1. Paronychia is the result of a pyogenic infection around the nail. It may be due to the staphylococcus or the streptococcus. It is frequently the result of injudicious manicuring. In physicians and nurses it may arise as a result of direct infection of the fingers and may assume a malignant form, spreading up the lymphatics. Chronic cases may be caused by tuberculosis. Yeast infection is responsible for some cases. It is probably not due to focal infection, although lowered resistance may be concerned. The best abortive treatment is careful hygiene of the hands, wearing of rubber gloves when exposed to infective substances, and the use of 2 per cent mercurochrome-220 soluble around the nails. Chemical irritants, such as formaldehyde and procaine hydrochloride, should be avoided. Roentgen ray and ultraviolet radiation are helpful. MacKee states that he has had a few good results and many failures with the roentgen ray in the treatment of chronic pyogenic paronychia.

2. Scrupulous care of the nipples is the first essential in the prophylaxis of breast abscess. If there is definite evidence of a mastitis the child should not be permitted to nurse the affected breast, a saline cathartic should be given, a tight breast binder applied and ice bags placed on the involved breast. In addition to this, Harttung (*Monatsschr. f. Geburtsh. u. Gynäk.* **76**:4 [March] 1927) injects 10 cc. of the patient's own blood into the gluteal muscles. This most likely acts as any foreign protein would. If an abscess forms,

it is generally incised and drained. However, some prefer to treat abscesses without mutilation of the breast. Gardiner (*Ohio State M. J.* **19**:316 [May] 1923) advocates repeated aspiration of the pus, combined with the application of a pressure bandage.

3. The old fashioned lotion of lead and opium owes its existence to antipruritic and analgesic efficiency in conditions in which the epidermal layer is injured to such an extent as to permit absorption of the opium alkaloids, which, by centric action, antagonize appreciation of the sensory irritation, the distress being lessened at the same time by the astringency of the lead compound. To this are added the physical factors of cooling by evaporation of the fluid and a protectant action to the surface from covering it with a film of finely divided soluble matter. When the epidermal surface is unbroken, only the physical factors are active.

POSSIBLE EFFECTS OF BUTESIN PICRATE

To the Editor:—Do butesin or picrates ever act like phenol (carbolic acid) on the fingers and toes? A man past 70 found that he could pull off a soft corn after the soaking of a long sea bath. The exposed surface oozed blood slightly. He was treated an hour later with mercurochrome and butesin picrate ointment (commercial). The toe was normal forty-eight hours later. I advised the same ointment for a couple of days more. Two days later the condition had changed. The toe was swollen and painful, there were shooting pains up the thigh, and the skin was dusky red at the site of the corn, suggestive of the action of phenol. I feared gangrene, and considered the question of age or the ointment. I changed the ointment to commercial zinc oxide. Improvement resulted the first day and all was well three days later. Please use initials only.

M.D., Florida.

ANSWER.—As to the cause of this condition, which is quite unusual, at least two possibilities have to be considered. One of these is infection; the other, irritation due to the chemicals employed. The exceptional mode of action, if the latter is the case, may be comprehended when one accepts, as an axiom, the well attested clinical fact that poorly nourished cells may be destroyed by agents that would stimulate better nourished cells to reproduction. The "picrate" component, which in the presence of moisture may be considered as free trinitrophenol (picric acid), may therefore be suspected of possibly having had such action in the case reported. The butesin may have increased this effect by its anesthetic action, for it has been shown that local anesthetics generally at first lessen the degree of hyperemia in reaction to injury, an effect frequently followed by excessive hyperemia later on.

"FORMULA FOR TREATMENT OF EPITHELIOMA WITH X-RAY"

To the Editor:—I hasten to protest against several statements published in Queries and Minor Notes (THE JOURNAL, April 7) under this title. All reliable work done in x-ray measurements has conclusively shown the inaccuracy of formulas for x-ray treatment. Under apparently similar physical conditions, the dose may vary as much as 300 per cent. While it is true that such excellent writers as McKee give formulas, they do not advise treatment of such a serious lesion as an epithelioma without first learning the effect on the skin by a series of carefully controlled tests.

In the question, a 5-inch spark gap is assumed to be 60 kilovolts, while in the answer a 4-inch spark gap is taken as the equivalent of 75 kilovolts. In the first instance root-mean-square voltage is meant, and in the second, peak or maximum voltage. Since peak voltage equals root-mean-square voltage multiplied by the square root of 2 (or 1.41), and since the intensity of the x-rays produced varies approximately as the square of the voltage, it is obvious that a tremendous error may result from this failure clearly to define the method of measuring voltage.

Thirdly, no filter is advised. It is a well known fact that the output of unfiltered x-rays from different tubes, operated under identical conditions, may vary as much as 100 per cent, because of variations in thickness of the glass, deposits of metal on the glass, pitting of the target and other factors. Furthermore, since the answer advises a hole in the mask one-half inch larger than the lesion, it would be naturally assumed that it is intended to deliver an effective dose to the lesion and the tissues surrounding it to a distance and depth of one-half inch. With the technic described it would be impossible to deliver an effective dose to a depth of one-half inch without a serious overexposure to the skin, as considerably more than half of the unfiltered radiation produced would be absorbed in the first centimeter.

Finally, the last paragraph of the answer states that the lesion "invariably" disappears. This is by no means true, nor is it true that severe reactions are always necessary in the treatment of epithelioma.

I believe that x-ray treatment skilfully and accurately applied will cure more epitheliomas than any other single method. I am also convinced, however, that almost any method, such as excision, electrocoagulation or cauterization, offers a better chance of curing the patient than the application of a faulty formula with no idea of the requisite dosage.

ARTHUR W. ERSKINE, M.D., Cedar Rapids, Iowa.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 10. Chm., Dr. S. W. Welch, 519 Dexter Ave., Montgomery.

AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS: Minneapolis, June 11. Sec., Dr. William H. Wilder, 122 S. Michigan Ave., Chicago.

AMERICAN BOARD OF OTOLARYNGOLOGY: Minneapolis, June 11, Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

CALIFORNIA: San Francisco, July 9. Sec., Dr. Chas. B. Pinkham, 908 Forum Bldg., Sacramento.

COLORADO: Denver, July 3. Sec., Dr. Philip Work, 324 Metropolitan Bldg., Denver.

CONNECTICUT: Hartford, July 10-11. Sec., Reg. Bd., Dr. Robert L. Rowley, 79 Elm St., Hartford. Sec., Homeo. Bd., Dr. E. C. M. Hall, 82 Grand Ave., New Haven. State Bd. of Healing Arts, June 9, New Haven. Box 1895, Yale Station, New Haven.

DELAWARE: Wilmington, June 19-21. Sec., Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

DISTRICT OF COLUMBIA: Washington, July 10. Sec., Dr. E. C. Copeland, Suite 110, 1801 Eye St., Washington.

FLORIDA: Jacksonville, June 11-12. Sec., Dr. William M. Rowlett, 812 Citizens Bank Bldg., Tampa.

GEORGIA: Atlanta and Augusta, June 6-8. Sec., Dr. B. T. Wise, Americus, Georgia.

ILLINOIS: Chicago, June 26-29. Supt. of Regis., Mr. V. C. Michels, Springfield.

INDIANA: Indianapolis, June 19. Sec., Dr. E. M. Shanklin, 421 State House, Indianapolis.

IOWA: Iowa City, June 5-7. Dir., Mr. H. W. Grefe, Des Moines.

KANSAS: Kansas City, June 19. Sec., Dr. Albert S. Ross, Sabetha.

KENTUCKY: Louisville, June 12. Sec., Dr. A. T. McCormack, 532 W. Main St., Louisville.

LOUISIANA: New Orleans, June 14-16. Sec., Reg. Bd., Dr. Roy B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.

MAINE: Augusta, July 2-3. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.

MARYLAND: Baltimore, June 19-22. Sec., Reg. Bd., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore. Homeo. Bd., June 12. Sec., Dr. J. S. Garrison, 517 Old Orchard Rd., Ten Hills, Baltimore.

MASSACHUSETTS: Boston, July 10-12. Sec., Dr. Frank M. Vaughan, 144 State House, Boston.

MICHIGAN: Ann Arbor, June 12-14 and Detroit, June 18-20. Sec. Dr. Guy L. Connor, 707 Stroh Bldg., Detroit.

MINNESOTA: Minneapolis, June 19-21. Sec., Reg. Bd., Dr. A. E. Comstock, 524 Lowry Bldg., St. Paul. Sec., Basic Science Bd., Dr. E. T. Bell, Anatomy Bldg., University of Minnesota, Minneapolis.

MISSISSIPPI: Jackson, June 21-22. Sec., Dr. F. J. Underwood, Jackson.

NATIONAL BOARD OF MEDICAL EXAMINERS: Class A Medical Schools, June 13-15. Dir., 608-12 Fifteenth and Locust Sts., Philadelphia.

NEBRASKA: Omaha, June 21-23. Sec., Reg. Bd., Mr. Lincoln C. Frost, Lincoln.

NEW JERSEY: Trenton, June 19-20. Sec., Dr. Chas. B. Kelley, 30 W. State St., Trenton.

NEW YORK: New York City, Albany, Syracuse and Buffalo, June 25-28. Sec., Dr. Harold Rypins, Educational Bldg., Albany.

NORTH CAROLINA: Raleigh, June 18. Sec., Dr. John W. MacConnell, Davidson.

NORTH DAKOTA: Grand Forks, July 3. Sec., Dr. G. M. Williamson, Grand Forks.

OHIO: Columbus, June 6-8. Sec., Dr. H. M. Platter, State Savings Bank Bldg., Columbus.

OREGON: Portland, July 10-12. Sec., Dr. M. K. Hall, 816 Pittock Block, Portland.

RHODE ISLAND: Providence, July 5-6. Sec., Dr. B. U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, June 26. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

TENNESSEE: Memphis, Nashville, Knoxville, June 14-15. Sec., Dr. A. B. De Loach, Medical Arts Bldg., Memphis.

TEXAS: Austin, June 19-21. Sec., Dr. T. J. Crowe, 918-919 Mercantile Bank Bldg., Dallas.

VERMONT: Burlington, June 20-22. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 19-22. Sec., Dr. J. W. Preston, Box 444, Roanoke.

WISCONSIN: Milwaukee, June 26-28. Sec., Reg. Bd., Dr. Robert E. Flynn, La Crosse. Sec., Basic Science Bd., Prof. M. F. Guyer, University of Wisconsin.

WYOMING: Cheyenne, June 9. Sec., Dr. W. H. Hassed, State Capitol Bldg., Cheyenne.

SCHOOLS OFFERING SUMMER COURSES IN 1928

The following is a list of summer courses approved by the Council on Medical Education and Hospitals:

ALABAMA

UNIVERSITY OF ALABAMA SCHOOL OF MEDICINE, University.—Courses in embryology, topographic anatomy, physiologic chemistry, physiology (sophomore physiology) and an introductory course in obstetrics will be offered to medical students, conditioned students from other medical schools and others qualified to take them. The summer quarter is divided into two terms. The first term begins, June 6; the second term, July 18. Dr. Clyde Brooks, dean.

CALIFORNIA

STANFORD UNIVERSITY SCHOOL OF MEDICINE, 2398 Sacramento Avenue, San Francisco.—A special summer course for graduates of medicine

is offered, to be given between Monday, July 2, and Saturday, July 14. This course will consist of a series of forty lectures and demonstrations covering various fields of medicine, surgery, pediatrics, obstetrics and gynecology, pathology, and public health and pharmacology in their clinical aspects. Four sessions will be held on each week day excepting Saturday, on which there will be two. In general, the purpose of the course is to review, from the practical standpoint, the more important advances in clinical medicine which have been made during recent years. The course may be regarded as complementary to that of the University of California, which ends on Saturday, June 30, so that practitioners so desiring may find it profitable to take both courses. A detailed program will be sent on request by applying to the dean, Dr. William Ophuls.

UNIVERSITY OF CALIFORNIA MEDICAL SCHOOL, Parnassus and Third avenues, San Francisco.—Summer courses for graduates in medicine will be offered from June 4 to June 30 in general medicine, surgery, the specialties and laboratory subjects. Address: Dean's Office.

COLORADO

COLORADO SCHOOL OF TUBERCULOSIS, Colorado Springs.—From July 2 to August 1, a summer course in tuberculosis will be offered to graduates in medicine. The schedule provides for lectures, clinics and individual instruction. From August 1 to August 10, opportunity will be offered for practical work in the various sanatoriums. The preference of the students for special subjects, such as laboratory methods, x-ray, artificial pneumothorax and physical diagnosis, will be consulted as far as possible. Dr. G. Burton Gilbert, secretary.

UNIVERSITY OF COLORADO SCHOOL OF MEDICINE, 4200 East Ninth Avenue, Denver.—Courses for medical students will be offered in anatomy, bacteriology, biochemistry, pathology, physiology and pharmacology. A course in clinical pathology is also offered primarily for nurses and others who wish to qualify as laboratory technicians. Applicants for summer quarter admission are requested to forward credentials to Dean's Office not later than June 1. Registration begins June 16 and the session closes, August 24.

CONNECTICUT

NEW HAVEN SCHOOL OF PHYSIOTHERAPY, 303 Whitney Avenue, New Haven.—Courses open to well qualified graduates in medicine. Physicians may register throughout the year but are advised to come if possible the first of June, July, August or September. Individual instruction may be had and also practical work on apparatus. Dr. Harry Eaton Stewart, director.

DISTRICT OF COLUMBIA

HOWARD UNIVERSITY SCHOOL OF MEDICINE, Corner of Fifth and W streets, N. W., Washington.—The School of Medicine in conjunction with the School of Public Health offers from June 1 to July 21 a six weeks summer course to graduates of recognized medical colleges. Instruction given in general surgery, gynecology, genito-urinary surgery, internal medicine, otolaryngology, ophthalmology, roentgenology, public health, laboratory methods and physical diagnosis. Dr. Edward A. Balloch, dean.

GEORGIA

EMORY UNIVERSITY SCHOOL OF MEDICINE, 50 Armstrong Street, Atlanta.—From July 16 to 28, two weeks of general medical and surgical clinics will be offered free to physicians who wish to attend, and are in the nature of extension work.

There will also be offered, to the students of Emory University who have done part-time work as assistants, an opportunity for them to catch up in time and subject credit in the outpatient department or clinical clerk's service. This course is not open to students from other schools. Dr. Russell H. Oppenheimer, dean.

ILLINOIS

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, 303 East Chicago Avenue, Chicago.—It is proposed to offer a full quarter of clinical work, juniors and seniors, making it possible for seniors to complete their program, March 21, 1929, instead of June 17, 1929.

If the number of applicants warrant, a laboratory course will also be offered in gross anatomy, microscopic anatomy, physiologic chemistry, bacteriology and general pathology. C. W. Patterson, Ph.C., registrar.

UNIVERSITY OF CHICAGO.—This school has the four quarter system, and therefore the usual summer course is offered. The courses in the third and fourth years of the medical school are continued at Rush Medical College during the summer quarter in the departments of pathology, medicine, pediatrics, surgery, obstetrics and gynecology, laryngology and otology, ophthalmology and dermatology.

Courses in hygiene, public health and related subjects will be offered to qualified students and to graduates in medicine. The summer quarter is divided into two terms. The first term begins, June 18; the second term, July 26. Applications should be made to the University Examiner at least one month in advance of the opening of the quarter.

Postgraduate courses in otolaryngology, ophthalmology, dermatology and radiology for a limited number of qualified students who are unable to spend one or more years in study are continued during the summer quarter. In radiology, courses for shorter periods may be arranged. For further particulars consult or address the Registrar, Rush Medical College, 1758 West Harrison Street, Chicago.

UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE, Honore and Congress streets, Chicago.—Postgraduate courses for physicians will be offered throughout the month of June in the departments of anatomy, physiologic chemistry, dermatology and syphilography, internal medicine, laryngology, rhinology and otology, neurology and psychiatry, ophthalmology, obstetrics and gynecology, pathology and clinical pathology, pediatrics, roentgenology and surgery. The registration will be limited. In some departments the work will be given throughout the day; in others, only half the day. In some fields the courses will be given six days a week, others only three, four or five days a week. The full-time registration fee will be $100; for half-time registration (or less), $50. Registration in the different courses will be closed on Saturday, May 26, 1928. Address all communications to Mr. William H. Browne, secretary.

INDIANA

INDIANA UNIVERSITY SCHOOL OF MEDICINE, Indianapolis.—Beginning June 14 and lasting for six weeks there will be offered to the physicians of Indiana short courses in biochemistry, pharmacology, physical diagnosis, ward visits, general pathology, physical therapy, modern drug therapy and biotherapy, disease production and resistance, and a nutrition course. Clinics are held in dermatology, genito-urinary, gynecology, ophthalmology, rhinology, otology, laryngology and surgery. Ample clinical material in both hospital and dispensary patients is available for these clinics. Courses limited to a certain number of students. For further information apply to Dr. Charles P. Emerson, dean.

IOWA

STATE UNIVERSITY OF IOWA COLLEGE OF MEDICINE, Iowa City.—A course in surgical specialties and laboratory courses in anatomic subjects, bacteriology, biologic chemistry and physiology. These courses are designed both for those who desire to review the subjects and for those who may desire to take work preliminary to the regular medical courses in those subjects. The tuition fee is $36 for residents of Iowa; $72 for nonresidents. Students who fulfil the entrance requirements for the medical course may receive credit both in time and in subjects for work taken in the summer session. Dr. H. S. Houghton, dean.

KANSAS

UNIVERSITY OF KANSAS SCHOOL OF MEDICINE, Lawrence-Kansas City.—Courses for qualified graduates in medicine and undergraduate students will be offered in pathology, anatomy, physiology, biochemistry and bacteriology. The only course given at Kansas City is that in pathology. The summer session will continue ten weeks and is divided into two terms of six weeks and four weeks, respectively; the first term begins, June 7; the second term begins, July 14, and ends, August 10. Mr. George O. Foster, registrar, room 102, Administration Building, Lawrence.

MARYLAND

JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE, Washington and Monument streets, Baltimore.—In each of the clinical departments opportunity for advanced instruction will be offered to a small number of physicians. The opportunities offered will consist of clinical work in the dispensary, ward rounds, laboratory training and special clinical studies. Applicants may be admitted at the beginning of any academic quarter and will not be accepted for a period shorter than three academic quarters of eight weeks each. Inquiries should be addressed to the executive secretary.

UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE, Lombard and Green streets, Baltimore.—A review course for physicians (not a postgraduate course) will be offered during the month of June. This course consists of daily instruction in medicine, surgery, specialties (obstetrics, gynecology, ophthalmology, laryngology, etc.). Dr. J. M. H. Rowland, dean.

MASSACHUSETTS

HARVARD UNIVERSITY MEDICAL SCHOOL, Courses for Graduates, 240 Longwood Avenue, Boston.—Courses available during the summer term are the same as those offered during the year open for qualified graduates in medicine. Courses may be given at any time from Jan. 1 to Dec. 31, 1928, in the following departments: anatomy, physiology, biologic chemistry, bacteriology, pathology, preventive medicine and hygiene, medicine and physical therapeutics, pediatrics, neurology, surgery, roentgenology, anesthesia, proctology, genito-urinary surgery, orthopedic surgery, obstetrics, gynecology, dermatology and syphilology, ophthalmology, laryngology and otology. Dr. Samuel R. Meaker, secretary.

MICHIGAN

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL, Ann Arbor.—Courses open to qualified graduates in medicine, undergraduates of this and other schools and all persons qualified to pursue them to advantage. All work offered in the summer session is equivalent in method, character and credit value to similar work of the regular year; but no allowance for time will be given for work done in the summer session. Instruction given in anatomy, bacteriology, dermatology and syphilology, internal medicine, neurology, obstetrics and gynecology, ophthalmology, otolaryngology, pathology, pediatrics, pharmacology and materia medica, physiologic chemistry, physiology, roentgenology and surgery. The course begins, June 25, and ends, August 3. Some of the laboratory courses that may be elected to advantage by students from other schools and colleges of the university will close, August 17. Dr. Hugh Cabot, dean.

MINNESOTA

UNIVERSITY OF MINNESOTA MEDICAL SCHOOL, Minneapolis.—This school has the four quarter system, and therefore the usual summer course is offered to both graduate and undergraduate students.

NEW JERSEY

PHYSIATRIC INSTITUTE, Morristown.—The course for graduate physicians consists of lectures and especially practical experience in the laboratories, ward and diet kitchens of the institute. It is expected to give a practical training in the metabolic disorders treated at the institute, especially diabetes, obesity, nephritis, hypertension, anemia and some cardiac and digestive disorders. The tuition is $150. The course begins, June 1, and ends, July 1. The same work can be taken informally in other months without lectures, at the same fee. Dr. Frederick M. Allen, director.

NEW YORK

COLUMBIA UNIVERSITY COLLEGE OF PHYSICIANS AND SURGEONS, 437 West Fifty-Ninth Street, New York.—Courses in anatomy, bacteriology, cancer research, neurology and practice of medicine will be offered to

medical students as well as to physicians who may pursue them. The session begins, July 9, and ends, August 17.

A five weeks' course on internal medicine will be given to well qualified graduates in medicine from June 11 to July 13.

Courses in public health and preventive medicine will be given if a sufficient number apply. This course is open to physicians, sanitarians, nurses, teachers, social workers and other health workers. Applications must be made to the DeLamar Institute of Public Health, College of Physicians and Surgeons, 632 West One Hundred and Sixty-Eighth Street, prior to June 1.

A course in the pathology and diagnosis of tumors will be given at the Institute of Cancer Research in connection with the summer session of Columbia University beginning July 9, and lasting for six weeks. Classes will be held daily, except Saturday, from 2 to 4 p. m. The fee for the course will be $37. Application should be made to the director of the summer session, Columbia University.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, Second Avenue, Twentieth and Twenty-First streets, New York.—Courses available during the summer term are the same as those offered during the year, open for general practitioners. Dr. William D. Cutter, dean.

NEW YORK SKIN AND CANCER HOSPITAL, Second Avenue at Nineteenth Street, New York.—The department of postgraduate teaching offers to all graduates of recognized medical colleges who are in good standing courses in dermatology, syphilis (including neurosyphilis), urogenital diseases and new growths, together with the associated laboratory work. Students are accepted at any time throughout the year and may continue one month, three months or longer. Miss Sara Burns, superintendent.

TRUDEAU SCHOOL OF TUBERCULOSIS, Saranac Lake.—A course in the intensive study of tuberculosis is being offered to graduates in medicine from May 14 to June 23 (a six weeks' course). Dr. E. R. Baldwin, director.

UNIVERSITY OF BUFFALO SCHOOL OF MEDICINE, 24 High Street, Buffalo.—Courses in anatomy and biologic chemistry will be offered to medical students and graduates provided that at least twelve students enroll for the chemistry and ten for the anatomy. Applications for admission to the summer session should, if possible, be made on or before June 1. Dr. Clarence H. Thurber, director, summer session.

OHIO

WESTERN RESERVE UNIVERSITY SCHOOL OF MEDICINE, 2109-2115, Adelbert Road, Cleveland.— Summer courses in biochemistry and physiology will be offered to medical students of Western Reserve University who find it necessary to make up work in which they are deficient, although outside students are sometimes admitted. Courses will not be given unless a certain number apply. The summer session will begin on or about June 13. Dr. Carl A. Hamann, dean.

OREGON

UNIVERSITY OF OREGON MEDICAL SCHOOL, Marquam Hill, Portland.—A number of courses in clinical subjects in the outpatient department and in anatomy of the nervous system will be offered to students of the University of Oregon. No courses available for students from other schools. Dr. Richard B. Dillehunt, dean.

A course for the training of medical and public health laboratory technicians will be given under the general program of the extension department from June 18 to August 24. Harry J. Sears, Ph.D., professor of bacteriology.

PENNSYLVANIA

UNIVERSITY OF PENNSYLVANIA GRADUATE SCHOOL OF MEDICINE, Philadelphia.—Courses for graduates, during the summer months, in various hospitals and institutions offered in conjunction with the graduate school are as follows: parasitology and tropical medicine, July and August each year; gastro-enterology, May to July; allergy, intubation, clinical dermatology, neuro-otology, clinical psychiatry, operative surgery and surgical anatomy, anesthesia, and gynecology for the general practitioner, June to August; cystoscopy, slit lamp microscopy, laryngoscopy, bronchoscopy and esophagoscopy, otologic operations, otolaryngologic operations, correction of defects of speech, clinical biochemistry. Dr. George H. Meeker, dean.

SOUTH CAROLINA

MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA, Charleston.—A two weeks course of lectures and clinics will be offered from May 28 to June 9 in pediatrics, surgery, gynecology, ophthalmology, genito-urinary surgery, medicine, dermatology and syphilology, pathology, psychiatry, neurology, orthopedic surgery, otolaryngology, internal medicine and physical diagnosis. Dr. Robert Wilson, dean.

TEXAS

BAYLOR UNIVERSITY COLLEGE OF MEDICINE, 720 College Avenue, Dallas.—A series of clinics will be offered to physicians from May 21 to June 2. No fees are charged and no certificates of attendance are granted. These clinics are held each summer in response to a request from and in cooperation with the Texas State Medical Association.

In addition, a short summer session, June 11 to August 1, will be offered in the following departments if the demand justifies so doing: histology, embryology, biochemistry, bacteriology, neuro-anatomy, pathology, pharmacology and clinical pathology. Dr. W. H. Moursund, dean.

UNIVERSITY OF TEXAS SCHOOL OF MEDICINE, 912 Avenue B, Galveston.—A two weeks course of lectures and clinics for practitioners will be held from May 11 to 24, inclusive. Dr. Henry Hartman, dean.

VIRGINIA

UNIVERSITY OF VIRGINIA DEPARTMENT OF MEDICINE, Charlottesville.—Courses in the medical sciences are being offered during the summer for medical students who are deficient in these subjects and desire to make a review: group A, histology and embryology; group B, anatomy, topographic anatomy and anatomy of the human nervous system; group C, biochemistry; group D, pharmacology; group E, bacteriology. No courses will be given in any group if less than six students apply for the courses. Applications should be sent in as far in advance as possible in order that it may be determined whether or not the course will be given. The summer quarter is divided into two terms. The first term begins, June 18, and ends, July 28. The second term begins, July 30, and ends, September 1. Dr. H. E. Jordan, professor of histology and embryology.

WEST VIRGINIA

WEST VIRGINIA UNIVERSITY SCHOOL OF MEDICINE, Morgantown.—A course in physiologic chemistry will be offered to undergraduate students of West Virginia University who may have failed in the first year. The summer session is divided into two terms of six weeks each. The first term begins, June 10, and ends, July 21. The second term begins July 22, and ends, August 31. Dr. John N. Simpson, dean.

WISCONSIN

UNIVERSITY OF WISCONSIN MEDICAL SCHOOL, Madison.—Courses offered to undergraduate students in anatomy, bacteriology, hygiene, medicine, pharmacology, physiologic chemistry, physiology and surgery. A student from another medical school will not be admitted to work in the medical school here during the summer session unless he presents a letter of recommendation from the dean of the school which he attends. Summer session begins, June 25, and ends, August 3. Dr. Charles R. Bardeen, dean.

Pennsylvania January Examination

Mr. C. D. Koch, director of the Pennsylvania State Board of Medical Education and Licensure, reports the examination held at Philadelphia, Jan. 31-Feb. 4, 1928. Of the 56 candidates examined, 52 passed and 4 failed. Four physicians were licensed by reciprocity and 1 physician was licensed by endorsement of his credentials. The following colleges were represented:

College	PASSED	Year Grad.	Number Passed
Georgetown University School of Medicine		(1925)	1
Howard University School of Medicine		(1925), (1926, 3)	4
College of Physicians and Surgeons, Chicago		(1886)	1
Johns Hopkins University School of Med.		(1925, 2), (1926)	3
Boston University School of Medicine		(1925)	1
Harvard University Medical School		(1925)	1
University of Michigan Medical School		(1926)	1
University of Buffalo School of Medicine		(1911), (1926)	2
Eclectic Medical College, Cincinnati		(1926)	1
University of Cincinnati College of Medicine		(1927)	1
Jefferson Medical College of Philadelphia		(1925, 3), (1926, 6)	9
Temple University School of Medicine		(1925), (1926)	2
University of Pennsylvania School of Med.		(1925, 2), (1926, 8)	10
University of Pittsburgh School of Medicine		(1926)	1
Woman's Med. Coll. of Penn.		(1905), (1924), (1925), (1926)	4
Medical College of Virginia		(1926)	1
University of Toronto Faculty of Medicine		(1925), (1926, 4)	5
University of Naples, Italy		(1924)*	1
University of Rome, Italy		(1912)*	1
University of Tasi, Bucharest, Roumania		(1925)*	1
University of Leningrad, Russia		(1919)*	1

College	FAILED	Year Grad.	Number Failed
Howard University School of Medicine		(1925)	1
Albany Medical College		(1908)	1
Eclectic Medical College, Cincinnati		(1908)	1
Temple University School of Medicine		(1915)	1

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Rush Medical College		(1911)	Illinois
Tufts College Medical School		(1924)	New Jersey
Jefferson Medical College of Philadelphia		(1923)	N. Carolina
University of Pennsylvania School of Medicine		(1908)	Mass.

College	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement with
University of Pennsylvania School of Medicine		(1926)	N. B. M. Ex.

* Verification of graduation in process.

North Dakota January Examination

Dr. G. M. Williamson, secretary of the North Dakota State Board of Medical Examiners, reports the oral and written examination held at Grand Forks, Jan. 3-6, 1928. The examination covered 13 subjects and included 100 questions. An average of 75 per cent was required to pass. Eight candidates were examined, all of whom passed. Four physicians were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Northwestern University Medical School		(1927)	85
University of Illinois College of Medicine		(1927)	78.4
University of Minnesota Medical School		(1927) 80, 84,	84.5
Marquette University School of Medicine		(1927)	78.9
University of Manitoba Faculty of Med.		(1926) 87; (1927)	82

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College of Medical Evangelists		(1924)	California
Northwestern University Medical School		(1926)	New Jersey
University of Minnesota Medical School		(1924)	Minnesota
St. Louis University School of Medicine		(1906)	Kansas

Social Medicine and Medical Economics

A SATISFACTORY VENEREAL DISEASE CLINIC

W. RAY JONES, M.D.
SEATTLE

Seattle has no medical school or endowed clinics. Charity patients are cared for by the city hospital and clinics, and by the county hospital. Venereal disease among the indigent is looked on as a public health menace and is cared for in special clinics. These are conducted by the department of health in connection with the Seattle City Hospital.

The plan of the venereal disease clinics was formulated jointly by a committee from the Seattle Urological Society and the commissioner of health of the city of Seattle. Its object has been to satisfy, as nearly as possible, three divergent interests: (1) Seattle physicians; (2) the clinic patients, and (3) the department of health.

A social service worker investigates each case before admission to the clinic is granted. Patients, except those in quarantine, are charged fifty cents for each treatment or examination, regardless of its nature. The object of the fee is to prevent, if possible, complete pauperization and loss of self-respect among those receiving treatment. Those who are absolutely unable to pay may have their payments deferred. Persons who are able to pay more than the nominal fee are requested by the social worker to report to a private physician. Individual physicians are never recommended; patients are merely advised that the physician must be an M.D.

Persons discontinuing treatment are located by the health officer and given the choice either of voluntarily returning for treatment or of being quarantined. In general, those attending the clinics would be undesirable as private patients.

The venereal clinic is divided into four divisions, each with a physician in charge. Over these is a urologist-in-chief, who supervises the functioning of all the venereal divisions.

The duty of one physician is to determine the presence or absence of venereal disease in an infectious state in persons detained by the police. Persons arrested by the police on charges of disorderly conduct are referred to the department of health for examination. If such persons are found free from infectious disease, they are returned to the jurisdiction and custody of the police. Those found to have venereal diseases are held under the jurisdiction of the health department until either cured or rendered noninfectious.

Separate clinics are conducted for the treatment of gonorrhea and syphilis. One physician conducts a clinic for the treatment of gonorrhea and venereal sores other than syphilis in men. Another, a gynecologist, conducts a clinic for the treatment of gonorrhea in women. A syphilologist treats syphilis in both men and women. An isolation hospital is maintained for persons whose activities have been such that they cannot be trusted not to spread venereal disease.

Modern adjuncts, including laboratory and hospital facilities, are available; hence it is possible to give patients the best of scientific care.

Physicians conducting such clinics for the health department receive a small remuneration and are permitted to work unhandicapped by such factors as inability on the part of patients to meet the expense of treatment or by the loss of patients at inopportune times. Appointments to positions as venereal disease clinic physicians are made by the commissioner of health from among those practicing either urology or gynecology, on the recommendations of the Seattle Urological Society.

These clinics have proved satisfactory to the department of health largely because they have been effective both in treating and in educating patients who attend. They have been satisfactory to the medical profession because its own members have controlled the policies of the clinics, have had opportunities to gain experience and conduct investigations, and have seen for themselves that the patients who receive care would be undesirable in private practice.

332 Cobb Building.

Book Notices

PHYSICAL DIAGNOSIS. By Charles Phillips Emerson, A.B., M.D., Professor of Medicine, Indiana University School of Medicine. Cloth. Price, $7. Pp. 553, with 324 illustrations. Philadelphia. J. B. Lippincott Company, 1928.

In this volume the importance and significance of the results of inspection, palpation, percussion and auscultation are presented systematically. The methods of physical examination are not described and nothing is said about history taking or laboratory observations. Stethoscopes, sphygmographs and sphygmomanometers are almost the only instruments mentioned. A general and historical introduction is followed by a comprehensive statement of the significance of general physical characteristics, types of growth, height, weight and habitus. The description of alterations found in the general body surface and their significance is followed by chapters on the head, spine and thorax, heart, abdomen and extremities. Each of these chapters takes up in considerable detail the significance of the variations found in almost every known pathologic condition. In the chapter on the heart, for example, consideration is first given to the clinical anatomy, and then to the pulse, the arrhythmias, the size and form of the pulse wave, the tension of the pulse, venous pressure, venous and capillary pulse, irregularity of the heart's action, inspection, palpation, percussion and auscultation of the heart, valvular lesions, pericarditis, the female heart, the febrile heart, the nervous heart, the symptomatic heart, coronary thrombosis, myocarditis, heart failure, syphilitic aortitis, aneurysms of the thoracic aorta, and mediastinal tumors. "Physical diagnosis is, and doubtless will remain, the primary and fundamental method of diagnosis. Every advance in scientific medicine makes its problems greater, therefore harder. This is our reason for presenting for approval to the medical profession a book which will try to teach the levels of the medicine of today and to train the student to be ready to meet the problems of tomorrow." A valuable book for the student or the practitioner to have at hand.

DIE AETIOLOGIE DER BÖSARTIGEN GESCHWÜLSTE NACH DEM GEGENWÄRTIGEN STANDE DER KLINISCHEN ERFAHRUNG UND DER EXPERIMENTELLEN FORSCHUNG. Von Professor Dr. Carl Lewin. Paper. Price, 18 marks. Pp. 231. Berlin: Julius Springer, 1928.

In textbooks of about 1900-1915, little space was devoted to the etiology of tumors. Discussions were mainly theoretical and of such phases of the subject as Cohnheim's conception of embryonal remnants, Hansemann's cell anaplasia, and Ribbert's explanation of the origin of carcinoma. Tumors of animals other than man or tumors in plants were not mentioned, and experimental investigations of tumors had just begun. Such an extensive review as this with its more than a thousand references to the literature and devoted altogether to the cause of tumors is certainly auspicious. One conclusion from its perusal is that the cancer problem is well along on the road to final solution The book presents what has been accomplished by the experimental study of tumors. Since the change of normal cells to rapidly growing cells of malignant tumors is not due to purely morphologic metamorphosis, there are scarcely any details of histology or of histogenesis. Tables and illustrations are omitted. The monograph is devoted to the experimental production of tumors, since theories of their causation have no other proper basis. Some attention is given to clinical observations, for the repeated occurrence of tumors from roentgen rays or soot, for example, is obviously related to experimentally controlled growth of tumors in animals. And a great many

more of contributions for analysis and criticism have been found available by Lewin related to such exogenous factors as soot, tar and heat than to the influence of race, age, inheritance, the secretions of endocrine glands and others operating endogenously. As time elapses, perhaps the number of fruitful studies in the latter field will increase. Tumor investigation has come to occupy a field so large that its limits are not bounded. It is as much occupied with what constitutes life as is any other problem of biology, with the advantage of its undefinable humanitarian interests. And the trend at present is chiefly toward accepting, as the most hopeful field, that concerned with the chemical constitution of cells, their enzymes, catalytic activities, the dispersion of their colloids and other similar particulars of their biologic activities, and how tumor cells possess differences from normal cells in these respects. The development of such conclusions in an orderly way from what has already transpired in study of the cancer problem illustrates the significance of this work.

AN INTRODUCTION TO MEDICAL PROTOZOOLOGY WITH CHAPTERS ON THE SPIROCHÆTES AND ON LABORATORY METHODS. By Robert Knowles, B.A., M.R.C.S., L.R.C.P., Lt.-Col. Indian Medical Service. Cloth. Price, Rs. 25/-. Pp. 887, with illustrations. Calcutta: Thacker, Spink & Company, 1928.

This was intended primarily as a textbook for students in the Calcutta School of Tropical Medicine and is the outgrowth of a series of notes tested in several successive classes. The author has with due permission made direct, extensive and good use of the work of Wenyon, Dobell and Patton. In consequence, the book is well down to date, exhaustive to a fault, and both abundantly and well illustrated. However, one must wonder whether students in Calcutta can or will master such a voluminous work. Surely if they do, even in good part, they will go out to their work well prepared in this important field. The author's style is far removed from that of the conventional textbook and is likely to be distinctly attractive to students. He plows ahead in a colloquial, almost gossipy, fashion, covering the history of each topic, telling of the mistakes of workers and as freely of his own, jumping from a paragraph of intensive technical description to one of historical character, bringing in a vast amount of material and including many hints of value for the practical worker for whom it was written. The book is divided into three distinct parts: the first devoted to nineteen lectures on medical protozoology; the second to seven chapters on laboratory method, and the third to bibliographic records and an index. The references to literature cover ninety pages; English contributions are exhaustively cited and American articles much better than often is the case. But German and French are much less adequately treated and the same may be said of the text. The author is overcritical of Schaudinn's invaluable pioneer work, which cannot fairly be judged from the standpoint of today's knowledge but unquestionably laid foundation for modern scientific studies on protozoa and disease.

ULTRA-VIOLET RAYS IN GENERAL PRACTICE. By W. Annandale Troup, M.C., M.B., Ch.B. Cloth. Price, 4/6 net. Pp. 59, with 12 illustrations. London: H. K. Lewis & Company, Ltd., 1926.

"This little book gives the experiences of the author in ultraviolet ray treatments in his general practice during the last year." This quotation fitly characterizes the book. Deductions are made and positive conclusions reached which are based on the treatments of a limited number of cases. A few quotations will suffice:

Alopecia.—A growth of hair is *invariably* produced after twelve treatments. This disease is readily cured no matter how long the history.

Eczema.—In every case the intolerable itching of this disease is removed.

Psoriasis.—This disease can *invariably* be cured.

Whooping Cough.—Ultraviolet treatment stops the whoops and its accompanying distress after three or four treatments.

The first portion of the book is a catalogue of the apparatus of the various dealers in ultraviolet apparatus. The chapter on "Action of the Ultraviolet Rays on the Tissues and Therapeutic Application" consists of an ill assorted and nonlogical presentation of some of the theories of ultraviolet activity.

THE PNEUMOTHORAX AND SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS. By Clive Riviere, M.D., F.R.C.P., Physician, City of London Hospital for Diseases of the Heart and Lungs. Second edition. Cloth. Price, $3.25. Pp. 311, with 16 illustrations. New York: Oxford University Press, 1927.

The author, in his preface, says that he has drawn largely on his own unsupported material. It is evident, indeed, that he has used to good advantage his valuable experience. The book is useful in that it covers thoroughly the new fields of pneumothorax treatment and the new thoracic surgery. The latter subject has been approached, the author says, from the point of view of the physician, no attempt to enter into the surgical details having been made. Riviere says truly that, when pneumothorax has failed, the physician can no longer fold his hands and abandon the patient to fate. He must at once inquire whether and how far thoracic surgery can supply his needs. It is for the physician to advise his patient in this matter. To do this, says the author, he must have a knowledge of what thoracic surgery has done and of what it is likely to do in the given case. Oleothorax, accidents of treatment, gas replacement, effect of pleural effusions and other aspects of the general subject of thoracic surgery are covered in the book.

HANDBUCH DER NORMALEN UND PATHOLOGISCHEN PHYSIOLOGIE MIT BERÜCKSICHTIGUNG DER EXPERIMENTELLEN PHARMAKOLOGIE. Herausgegeben von A. Bethe, G. v. Bergmann, G. Embden, und A. Ellinger. Band XIV. 2 Hälfte. Fortpflanzung, Entwicklung und Wachstum. Teil 2, Metaplasie und Geschwulstbildung. Von B. Fischer-Wasels, und E. Küster. Paper. Price, 51 marks. Pp. 1195-1811, with 44 illustrations. Berlin: Julius Springer, 1927.

This second part of volume XIV completes the presentation of the subject of reproduction, development and growth. The first part of this volume was reviewed in these pages some time ago. The present part contains the index for the entire volume. Parenthetically, it may be remarked that any subscriber to a part obligates himself to buy the entire volume. The first sixteen pages (by Professor Küster) are devoted to a presentation of "new formations" in plants. The remainder of the book (by Professor Fischer-Wasels of Frankfort-on-the-Main) deals with the various aspects of metaplasia, tissue and tumor formation. Although this book is of particular value to the pathologist, the physiologist will find the authoritative summary of the status of tumor research highly welcome. American contributions are credited fully, particularly the extensive and careful studies of Maud Slye.

AN INTRODUCTORY COURSE IN OPHTHALMIC OPTICS. By Alfred Cowan, M.D., Assistant Professor of Ophthalmology in the Graduate School of Medicine, University of Pennsylvania. Cloth. Price, $3.50. Pp. 262, with 121 illustrations. Philadelphia. F. A. Davis Company, 1927.

This is a small, concise book on physiologic optics adapted from lectures on that subject given by the author in the Graduate School of Medicine of the University of Pennsylvania. It contains chapters on reflection and refraction of plane and spherical surfaces, lenses, dioptric systems of the eye, myopia, hyperopia, astigmatism, accommodation, diffusion of images, ophthalmoscopy and retinoscopy. The illustrations are numerous and the explanations brief and easily understandable. The book has a definite place in the teaching of ophthalmology and should be popular with the student and beginning practitioner.

DAS „VEGETATIVE SYSTEM" DER EPILEPTIKER. Von Dr. Felix Frisch, Leiter der therapeutischen Versuchsstation für Epilepsiekranke am Steinhof, Wien. Paper. Price, 4.80 marks. Pp. 57. Berlin: Julius Springer, 1928.

The author, who for many years has been making a clinical and biochemical study of epilepsy, utilizing a large material, has in this short monograph condensed his work and that of others into such a form as to be readily usable. He has applied the newer methods of clinical testing of the vegetative nervous system, and metabolic and biochemical studies of the regulatory functions of the central vegetative system to the epileptic patient. In the clinical manifestations he finds evidences of disturbances of the sympathetic system. He finds an altered water and salt metabolism, marked variations in blood calcium and sodium content, a definite disturbance in the acid-base relationship, and an abnormal serum

albumin picture. None of these abnormalities show much degree of constancy as to the type. Frisch considers the abnormal metabolism as the dispositional factor in the convulsive tendency because it plays on the irritability of the ganglion cells. In other words, two constitutional factors are present in the epileptic patient: (1) the excessive irritability of the central nervous system and (2) the abnormal metabolism secondary to vegetative nervous system imbalance which plays on the central organism.

AN ELEMENTARY TEXT BOOK OF GENERAL MICROBOLOGY. By Ward Giltner, Professor of Bacteriology and Hygiene, Michigan State College. Cloth. Price, $3.50 net. Pp. 471, with 99 illustrations. Philadelphia: P. Blakiston's Son & Company, 1928.

This elementary textbook differs from other books with a similar purpose in laying more stress on the study of yeasts and molds and in emphasizing the practical applications of what the author calls "microbology." The general properties of ultrasomes, bacteria, yeasts and molds are first discussed. While this is a logical sequence, it may be doubted from a pedagogic standpoint whether the elementary student should be first introduced to the ultramicroscopic organisms whose presence and significance are perhaps most difficult to demonstrate to him. The technical applications of microbology are well and sufficiently treated. The microbial infections are adequately presented, but it seems unnecessary to include so many in a book intended for beginners and particularly for agricultural students. Bergey's classification and nomenclature of micro-organisms has been consistently followed. The author has evidently taken pains to include definitions of all terms used in the field of microbology. Some sympathy may be expressed toward the elementary student who attempts to memorize all these. Perhaps the book would be more serviceable if it were not so complete. The illustrations are on the whole excellent and the text is clearly and concisely written.

HANDBUCH DER PATHOGENEN MIKROORGANISMEN. Von W. Kolle, R. Kraus, und P. Uhlenhuth. Lieferung 14. Band V. Die Sprosspilze. Von Prof. Dr. A. Buschke, und Dr. A. Joseph. Die Sporotrichose. Von Prof. Dr. A. Buschke, und Dr. E. Langer. Diphtherie. Von Prof. Dr. H. A. Gins. Third edition. Paper. Price, 20 marks. Pp. 321-524, with 46 illustrations. Jena: Gustav Fischer, 1928.

HANDBUCH DER PATHOGENEN MIKROORGANISMEN. Von W. Kolle, R. Kraus, und P. Uhlenhuth. Lieferung 15. Band II. Biochemie der Antigene und Antikörper. Von Prof. Dr. E. P. Pick, und Prof. Dr. F. Silberstein. Toxine und Antitoxine. Von Dr. L. E. Walbum. Hämotoxine und Antihämotoxine der Bakterien. Von Prof. Dr. E. Přibram. Ueber Toxine und Antitoxine der Vibrionen. Ueber Avidität der Antitoxine. Von Prof. Dr. R. Kraus. Bakterienaggressine. Von Prof. Dr. O. Bail. Third edition. Paper. Price, 25 marks. Pp. 317-662, with 19 illustrations. Jena: Gustav Fischer, 1928.

These sections contain discussions of the pathogenic yeasts, the sporotricha, diphtheria, the bichemistry of antigens and antibodies, toxins and antitoxins, bacterial hemotoxins and antihemotoxins, the toxins and antitoxins of the vibrios, and the so-called bacterial aggressins. Several of the articles are entirely new and all of them have been brought down to date. Pick and Silberstein's treatment of the biochemistry of antigens is especially to be commended.

COURIERS OF MERCY. Friendly Talks to Nurses. By Edward F. Garesché, S. J., General Spiritual Director of the International Catholic Guild of Nurses. Cloth. Price, $1.50. Pp. 190, with one illustration. Milwaukee: Bruce Publishing Company, 1928.

Informal talks with nurses about the motives and qualities of the ideal nurse, her relationships to patients, physicians and others, and her personal and professional problems are the subjects embraced in this work. It places nursing on the basis of a religious devotion to a noble calling.

RADIOLOGIE CLINIQUE DU TUBE DIGESTIF. Publiée sous la direction de MM. Pierre Duval, J.-Ch. Roux, H. Béclère. I. Estomac et duodénum. Par Pierre Duval, Jean-Charles Roux, et Henri Béclère. Cloth. Price, 265 francs. Pp. 333, with illustrations and 87 plates. Paris: Masson & Cie, 1927.

Two volumes, one on the stomach, the other on the duodenum, are the first part of a complete work on the digestive tract being produced by the Faculty of Medicine of Paris. The three collaborating authors are leaders in France in the surgical, medical and roentgenologic specialties. The work is essentially an atlas of roentgen-ray diagnosis of the stomach and duodenum. Brief notes are given in the earlier chapters concerning such items as the technic of roentgen-ray exposures, preparation of the patient, and the materials employed. Each print is accompanied with a concise statement and a line diagram. There are 400 roentgen-ray films, each one carefully explained by diagram. Most of the cases illustrated have been proved either by operation or at necropsy. The normal as well as the pathologic has been handled with great care and precision. Among the most interesting questions considered and handled at some length are hour-glass contraction, duodenal obstruction and the stomach after the various types of operation. The only regret is that the book is in French. It deserves a translation into English, as it is one of the best books that has appeared on this subject in recent years.

FISIOLOGIA GENERAL. Por el Doctor Fernando Ocaranza, profesor de fisiologia en la facultad de medicina. Prólogo del Doctor Alfonso Pruneda, rector de la Universidad Nacional. Cloth. Pp. 349, with 134 illustrations. Mexico, 1927.

This book, by the dean of the School of Medicine of the National University of Mexico, is a concise and well written treatise. Although originally intended for the student of medicine, its reading would be profitable to the general practitioner. It is to be regretted that so few pages are dedicated to the nerve cell. Also the analytic index might be more complete. In the exposition of his subject, the author accepts Claude Bernard's division of general physiology into: (1) study of protoplasm; (2) physicochemical requirements of life; (3) functional or destructive phenomena, and (4) plastic or synthetic phenomena. The book contains chapters on conception of the organism, the physicochemical construction of living matter, requirements for life, phenomena of living matter, fermentations and ferments, energetics, excitability and stimuli, general physiology of the nondifferentiated cell, general physiology of ephithelial secreting tissues, connective tissues, internal mediums, muscles and the nerve cell. To each chapter corresponding literature is appended. The book contains very clear sketches to illustrate the text.

TÉCNICA QUIRÚRGICA VAGINAL. Por Luis Recasens Serrano catedrático de obstetrica y ginecologia por oposición, en la Universidad de Zaragoza. Cloth. Pp. 227, with 163 illustrations. Madrid: Javier Morata, 1928.

This work is devoted to extolling the vaginal approach in gynecologic surgery. Each operation, from simple episiotomy to removal of ovarian cysts, is minutely described. Spinal anesthesia is used and both shock and peritonitis are found to be infrequent as compared with general anesthesia. The Schauta method of vaginal hysterectomy is preferred to that of Wertheim, and the author reports twelve such hysterectomies for carcinoma of the cervix. Hemostasis is emphasized in all the accounts of technical methods, since small masses of blood left in the tissues are excellent places for the growth of bacteria.

CLINICS, HOSPITALS AND HEALTH CENTERS. By Michael M. Davis, Ph.D. In collaboration with other staff members of the Committee on Dispensary Development of the United Hospital Fund of New York. Cloth. Price, $5. Pp. 546, with illustrations. New York: Harper & Brothers, 1927.

The work of clinics and dispensaries in the United States, amounting to probably 30,000,000 visits annually to those institutions by no less than 8,000,000 individuals, is a medical service of sufficient volume to justify a book on that subject. The author, who is a well known investigator of outpatient work, has crowded into the 546 pages much information that will help all who have to do with the organization and operation of clinics and dispensaries. It fills a place similar to that filled in 1918 by Davis and Warner's "Dispensaries."

EARLY DAYS OF THE PRESBYTERIAN HOSPITAL IN THE CITY OF NEW YORK. By David Bryson Delavan, M.D., Consultant, St. Luke's Memorial, Ruptured and Crippled Hospitals. Cloth. Price, $1.50. Pp. 191, with 34 illustrations. New York City, 1926.

Written in the informal style of one who was intimately connected with the hospital's gradual development and who recounts conquered difficulties with a justifiable pride, this book is certain to interest all who have ever had any connection with the Presbyterian Hospital.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

ANTHELMINTICS AND THEIR USES IN MEDICAL AND VETERINARY PRACTICE. By R. N. Chopra, M.A., M.D., Professor of Pharmacology, Calcutta School of Tropical Medicine and Hygiene, and Asa C. Chandler, M.Sc., Ph.D., Professor of Biology, Rice Institute, Houston, Texas. Cloth. Price, $5. Pp. 291. Baltimore: Williams & Wilkins Company, 1928.

Fine, authoritative presentation of our knowledge of parasitic infestations of man and their treatment.

CLIMATE AND DISEASE INCIDENCE IN INDIA: Forecasting Epidemics, being the Twenty-Ninth Robert Boyle Lecture. Delivered before the Oxford University Junior Scientific Club on June 4, 1927. By Sir Leonard Rogers, C.I.E., M.D., F.R.C.P. Paper. Pp. 39, with illustrations. New York: Oxford University Press, 1927.

Brief essay with sage comment on epidemiology and the weather.

ERGEBNISSE DER MEDIZINISCHEN STRAHLENFORSCHUNG: (RÖNTGENDIAGNOSTIK, RÖNTGEN-, RADIUM- UND LICHTTHERAPIE). Band III. Herausgegeben von H. Holfelder, H. Holthusen, O. Jüngling, und H. Martius. Paper. Price, 68 marks. Pp. 791, with 613 illustrations. Leipsic: Georg Thieme, 1928.

Last volume of extensive German system of knowledge of light and its effects on the human body.

THE SIMPLE GOITRES. By Robert McCarrison, C.I.E., M.D., D.Sc., Associate Fellow of the College of Physicians, Philadelphia. Cloth. Price, $4. Pp. 106, with 143 illustrations. New York: William Wood & Company, 1928.

Results of studies leading to conclusion that causes of simple goiter are multiple and that iodine prophylaxis may be doubtful.

RECENT ADVANCES IN BIOCHEMISTRY. By John Pryde, B.Sc., M.Sc., Lecturer in Physiological Chemistry, Welsh National School of Medicine, University of Wales. Second edition. Cloth. Price, $3.50. Pp. 379, with 38 illustrations. Philadelphia: P. Blakiston's Son & Company, 1928.

Technical consideration of modern biochemical investigations.

HEALTH AND PLEASURE RESORTS OF CENTRAL EUROPE. Describing the Natural Mineral Water Sources and Their Therapeutical Indications. By Morris Schott, M.D. Cloth. Price, $2. Pp. 172, with 1 portrait. New York: The Author, 1928.

Guide book extremely useful to those going abroad for an extended visit.

EVERYDAY PROBLEMS OF THE EVERYDAY CHILD. By Douglas A. Thom, M.D., Director of the Habit Clinics of Boston. With an introduction by Grace Abbott, Director of the United States Children's Bureau. Cloth. Price, $2.50. Pp. 350. New York: D. Appleton & Company, 1928.

Simple presentation of modern views on child guidance.

THE COMMON DISEASES OF THE SKIN. A Handbook for Students and Medical Practitioners. By R. Cranston Low, M.D., F.R.C.P., Lecturer on Diseases of the Skin, University of Edinburgh. Cloth. Price, $6. Pp. 223, with 68 illustrations. New York: William Wood & Company, 1927.

Another short presentation of diseases of the skin.

MENTAL DISORDERS. A Handbook for Students and Practitioners. By Hubert J. Norman, M.B., Ch.B., D.P.H., Medical Superintendent, Camberwell House, London. Cloth. Price, $5. Pp. 463, with illustrations. New York: William Wood & Company, 1928.

Just another handbook on neurology.

THE HEALERS. By B. Liber. Cloth. Price, $3. Pp. 454. New York: Rational Living, 1928.

Something purporting to be a novel about a doctor's experiences.

MATTER, ELECTRICITY, ENERGY. The Principles of Modern Atomistics and Experimental Results of Atomic Investigation. By Walter Gerlach, o.ö Professor, University of Tübingen. Translated from second German edition by Francis J. Fuchs, Ph.D. Cloth. Price, $6. Pp. 427, with 119 illustrations. New York: D. Van Nostrand Company, Inc., 1928.

THIRTEENTH ANNUAL REPORT OF THE SANATORIUM OF THE METROPOLITAN LIFE INSURANCE COMPANY, MOUNT MCGREGOR, N. Y., 1927. Paper. Pp. 23. New York: Metropolitan Life Insurance Company, 1927.

TRAITÉ D'ÉLECTROCARDIOGRAPHIE CLINIQUE. Par Paul Veil, assistant du Docteur Gallavardin à l'Hôtel-Dieu de Lyon, et Juan Codina-Altès, professeur agrégé à la Faculté de médecine de Barcelone. Préface de L. Gallavardin, médecin de l'Hôtel-Dieu de Lyon. Paper. Price, 95 francs. Pp. 447, with 208 illustrations. Paris: Gaston Doin & Cie, 1928.

THE UNIVERSITY OF THE STATE OF NEW YORK: The State Department of Education. Report on Higher Education in the State of New York for the School Year Ending July 31, 1926. From the Twenty-Third Annual Report of the Commissioner of Education of the State of New York. Cloth. Albany: University of State of New York, 1927.

THE PROTECTION OF MOTHERHOOD. By Dame Janet M. Campbell, D.B.E., M.D., M.S., Senior Medical Officer for Maternity and Child Welfare, Ministry of Health. Reports on Public Health and Medical Subjects No. 48. Paper. Price, 9d. net. Pp. 87. London: His Majesty's Stationery Office, 1927.

ACIDOSE ET ALCALOSE. Physiologie, pathologie, thérapeutique. Par Marcel Labbé, professeur à la Faculté de médecine de Paris, et Floride Nepveux, chef de laboratoire à la Faculté de médecine de Paris. Paper. Price, 30 francs. Pp. 296, with illustrations. Paris: Masson & Cie, 1928.

SECOND CONFERENCE ON THE MEDICAL SERVICES IN CANADA, 1927. Arranged by the Canadian Medical Association and held under the patronage of the Honourable James H. King, M.D., M.P., Minister of Health for Canada in the House of Commons. Paper. Pp. 174. Ottawa, 1928.

BEITRÄGE ZUR KLINISCHEN ARBEITSPHYSIOLOGIE IM KINDESALTER. Von Dr. Werner Gottstein, Assistent der Klinik und Privatdozent für Kinderheilkunde and der Universität Freiburg. Paper. Price, 5.40 marks. Pp. 92, with 11 illustrations. Berlin: S. Karger, 1928.

HEILBRIGDISSKÝRSLUR (PUBLIC HEALTH IN ICELAND), 1921-1925. Samdar eftir skýrslum hjeradslækna ad tilhlutun heilbrigdisstjórnarinnar. With an English summary. Paper. Various pagination. Reykjavik, Iceland: G. S. Jörnson, 1927.

APPRAISAL FORM FOR RURAL HEALTH WORK: For Experimental Use in Rural Counties, Districts or Other Similar Areas. By the Committee on Administrative Practice. Paper. Pp. 72. New York: American Public Health Association, 1927.

DIE WISSENSCHAFTLICHEN GRUNDLAGEN DER PSYCHOANALYSE FREUDS. Darstellung und Kritik. Von Dr. phil. et med. M. Nachmansohn, Nervenarzt in Luzern. Paper. Price, 7 marks. Pp. 106. Berlin: S. Karger, 1928.

TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY. Sixty-Third Annual Meeting, 1927. Volume XXV. Cloth. Pp. 421, with illustrations. Philadelphia: American Ophthalmological Society, 1927.

ABSTRACT OF THE PROCEEDINGS OF THE THIRTY-EIGHTH ANNUAL MEETING OF THE ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS OF AMERICA. Vol. XIV. Cloth. Pp. 476. The Association, 1928.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY, VOLUME LII FOR THE YEAR 1927. Edited by Floyd E. Keene, M.D. Cloth. Pp. 277, with illustrations. St. Louis: C. V. Mosby Company, 1928.

VERHANDLUNGEN DER DEUTSCHEN GESELLSCHAFT FÜR CHIRURGIE. Generalregister der Kongressberichte 1-50. Bearbeitet von San.-Rat Dr. M. Lewitt. Paper. Pp. 459. Berlin: Julius Springer, 1928.

ÉTUDE CHIRURGICALE DES GANGRÈNES JUVÉNILES PAR ARTÉRITES CHRONIQUES NON SYPHILITIQUES. Par le Docteur Raymond Leibovici. Paper. Price, 25 francs. Paris: Gaston Doin & Cie, 1928.

LA SYPHILIS MÉDULLAIRE. Par Lortat-Jacob, médecin de l'hôpital Saint-Louis, et Poumeau-Delille, interne des hôpitaux de Paris. Paper. Price, 14 francs. Pp. 151. Paris: Masson & Cie, 1928.

FRACTURAS. Tomo I. Por Laureano Olivaries, catedrático de patología y clínica quirúrgicas, en la Universidad Central. Cloth. Pp. 407, with 470 illustrations. Madrid: Javier Morata, 1928.

APPRAISAL FORM FOR CITY HEALTH WORK. By the Committee on Administrative Practice. Second Edition. Paper. Pp. 68. New York: American Public Health Association, 1927.

LES ASSOCIATIONS MICROBIENNES, LEURS APPLICATIONS THÉRAPEUTIQUES. Par Georges Papacostas, et Jean Gaté. Paper. Price, 20 francs. Pp. 438. Paris: Gaston Doin & Cie, 1928.

FIVE YEARS OF THE AMERICAN CHILD HEALTH ASSOCIATION. A Bird's-Eye View. Paper. Pp. 76. New York: American Child Health Association, 1927.

LA PITUITRINA EN OBSTÉTRICIA, SUS VENTAJAS Y SUS RIESGOS. Por Vital Aza y Mateo Carreras. Paper. Pp. 102. Madrid: Javier Morata, 1928.

UEBER HOMONYME HEMIANOPSIE. Von E. Bunge. Paper. Price, 2.80 marks. Pp. 51, with 1 illustration. Berlin: S. Karger, 1928.

ABORTO, SU TRATAMIENTO. Por José María de Otaola y Richter. Paper. Pp. 246. Madrid: Javier Morata, 1927.

Medicolegal

Proceedings on Physician's Claim Against an Estate

(Barnes v. Baker (Mo.), 299 S. W. R. 80)

The St. Louis (Mo.) Court of Appeals says that this proceeding originated as a claim against the estate of one Brandt which was filed in the probate court by the plaintiff, a physician specializing in the treatment of mental disorders, who was the medical director of a sanatorium for the care of patients with mental diseases to which Brandt was sent to receive treatment for dementia praecox. The claim grew out of a contract which was made between the plaintiff and Mrs. Brandt, whereby the latter employed the plaintiff to study and give particular attention to her husband's case, over and beyond that which was ordinarily accorded to patients in the sanatorium. Somewhat less than three years after that contract was made the plaintiff's contract with the sanatorium expired, after which he did not see the patient again but nevertheless continued rendering services in his behalf by conferring and advising with Mrs. Brandt regarding her husband's condition. The plaintiff also testified that he treated Mrs. Brandt personally for nearly three years, made one examination of the daughter, and advised the mother on many other occasions with reference to the daughter's condition. In its final form the plaintiff's claim was for $25,000 for the professional services rendered, and there was evidence that for all of such services the sum of $25,000 was a reasonable charge. The probate court sustained a motion to strike the amended claim from the files and thereafter entered judgment disallowing the claim for failure to offer proof, after which the plaintiff appealed to the circuit court, where a trial was had and he obtained a verdict and judgment for $5,000.

The defendant argued that, as the plaintiff's claim had been ordered stricken from the files in the probate court, there remained no claim pending before that court which could be the subject of disallowance; and, furthermore, that, even if it should be held that the appeal was otherwise properly taken, as the plaintiff filed no amended claim in the circuit court after the case reached that tribunal for hearing anew, there was nothing before the circuit court for determination. This contention, while novel and ingenious, in the opinion of the court of appeals was supported neither by law nor by justice. At the outset this court is unable to comprehend the drastic ruling of the probate court in striking the plaintiff's amended claim from the files, in view of the liberal provisions of the statute that the court should hear and determine all demands in a summary way without the form of pleading. But, irrespective of this, there was no escape from the conclusion that the force and effect of the proceedings in the probate court, all had at the same term, were to disallow the plaintiff's claim, no matter how such result was reached, which judgment was appealable. This being true, when the case reached the circuit court, it was the duty of that court, as the trial judge well recognized, to proceed to hear, try and determine the same de novo (anew), without regard for any error, defect or other imperfection in the proceedings had in the probate court.

It was next argued that a demurrer to all the evidence should have been sustained on the ground that there was a total failure of proof that the services rendered by the plaintiff to Brandt, over and above the treatments regularly furnished by the sanatorium, were necessary. This argument, even if it were entirely meritorious, would not be decisive of the particular point involved. It must be remembered that the claim submitted involved features other than the reasonable value of the services rendered to the husband, in that it was so drawn as to include items for medical services rendered to the wife and daughter, for which the estate would be liable. Accordingly, as there was substantial evidence to indicate that the latter services had been rendered, the demurrer to the evidence was, for such reason at least, properly overruled.

An instruction given required the jury to find only that there was a contract between the plaintiff and Mrs. Brandt, by the terms of which the plaintiff engaged to render certain services to her husband, for which the plaintiff was to receive a reasonable compensation, and that the plaintiff also rendered services in behalf of the wife and daughter. Nowhere was the jury required to find that any services to Brandt, such as were contemplated by the contract, had been rendered by the plaintiff. By merely requiring the jury to find that a certain contract had existed, calling for services to the husband, and that the plaintiff also had rendered services to the wife and daughter, the instruction clearly assumed that services had been rendered to the husband. It is obvious that a finding by the jury that the contract had been made did not carry with it the necessary conclusion that the duties specified in such contract had been fulfilled. The rule is that the assumption in an instruction of the truth of a fact contradicted in the evidence, and essential to the plaintiff's right to recover, constitutes reversible error. The instruction in question clearly violated that rule, and for the error in giving the instruction, the judgment of the circuit court is reversed, and the cause remanded. Rehearing denied.

Fundamental Rules as to Physicians and Surgeons

(Dunn v. Beck (Mont.), 260 Pac. R. 1047)

The Supreme Court of Montana states, as fundamental rules of law, that the law requires a physician or surgeon to possess the skill and learning that are possessed by the average member of the medical profession in good standing, and apply such skill and learning with ordinary and reasonable care. He is not an insurer, nor is a good result impliedly guaranteed. His obligation is merely to exercise such reasonable care and skill in the treatment of the patient as is usually exercised by physicians or surgeons of good standing, of the same school of practice in the community in which he resides, with due regard to the condition of the patient and the progress of medical or surgical science at the time.

The undertaking of the physician is not to cure the patient, nor to insure that his treatment will be successful, but rather that he will treat the injury he is employed to treat with ordinary care, diligence and skill. His obligation requires only that he shall in his treatment employ such a degree of skill and diligence as surgeons practicing in the general neighborhood, pursuing the same line of practice, ordinarily display in like cases. He is not necessarily liable for malpractice because of a bad result. Often he must act promptly and exercise his best judgment, and he is not liable for injuries arising without negligence, from honest errors of judgment. Nor is a physician bound to employ any particular method in the treatment of a patient, and, where among physicians of ordinary skill and learning more than one method of treatment is recognized as proper, it is not negligence for the physician to adopt either of such methods. The mere fact that there are other methods of treatment than the one employed, or the fact that other physicians would have used or advised the use of a different method in the particular case, is not proof of negligence.

The plaintiff physician brought this action to recover $150 alleged to be due for professional services rendered the defendant, who had been thrown from a wagon and dragged along the road about 75 yards, suffering a compound spiral comminuted fracture of the lower third of the femur of the left leg and a compound fracture of the lower third of the humerus of the left arm. The defendant counterclaimed for alleged malpractice and recovered a verdict and judgment for $1,500. In reversing that judgment and remanding the cause with directions to dismiss the defendant's counterclaim and to proceed to trial on the issues joined by the plaintiff's complaint and the defendant's answer thereto, the supreme court says that the jury was correctly instructed as to the law, as follows:

> You are instructed that the law requires that a physician or surgeon in treating a case possess the skill and learning which are possessed by the average member of the medical profession in good standing in the community in which he resides, and that he apply that skill and learning with only ordinary and reasonable care. He does not become a guarantor of

the results of such treatment. If, therefore, in this case the defendant, Beck, has failed to establish by a preponderance of the evidence that Dr. Dunn did not possess such skill and learning, as aforesaid, or did not apply such skill and learning with ordinary or reasonable care, your verdict as to the defendant's counterclaim must be in favor of the plaintiff, Dr. Dunn, and against the defendant.

However, such instruction was entirely disregarded, and the verdict could not be permitted to stand. Applying the fundamental rules of law stated above to the facts, it was plain that the verdict was against the law. The plaintiff had attended the defendant but nine days when he was discharged, much of the time being properly devoted in combating infection. The means employed in the treatment of the patient and caring for the fractures were recognized methods employed by other physicians in the community of the same school in the treatment of similar fractures, and the final result, of which complaint was made, occurred subsequent to the plaintiff's discharge from the case, and there was no evidence on which to predicate the plaintiff's responsibility therefor. On the completion of all the evidence in the case the court should have sustained the plaintiff's motion for a directed verdict on the defendant's counterclaim. There being no substantial conflict in the evidence, it remained only for the court to determine the law applicable to the evidence viewed as an agreed statement of facts.

Death from Fall Followed by Gangrene an Accident

(Mulhall v. Commercial Casualty Ins. Co. (N. Y.), 224 N. Y. Supp. 644)

The Supreme Court of New York, appellate division, fourth department, in reversing a judgment of nonsuit which was rendered on the ground that under the form of accident insurance policy sued on there was no question of fact to be submitted to the jury, says that the policy provided insurance "against bodily injuries, effected solely through external, violent and accidental means, independently and exclusively of disease, whether disease preexisted or be afterwards contracted." The insured was 52 years of age and his general health was good when he fell on the cellar stairs and was found on the concrete floor at the foot of the stairs. His wife assisted him to arise and with difficulty he was gotten upstairs to his bedroom, which he never left except to go to a bathroom nearby. He was under the care of a physician from the day of the accident, and died on the thirty-sixth day after the fall. It was undisputed that on the arrival of the physician, soon after the insured had been gotten to his bed, the insured was suffering great pain in his back, from his shoulders down to his hips, and stated that he had fallen and struck on his back. The pain was particularly severe when he was moved. The next day the pain was more severe, and there was a discoloration over the region of the hips, which covered an area 14 inches long and 7 inches wide. The pain continued and increased from day to day and on the tenth day this area had the appearance of softening or breaking down, and the lungs began to be affected, watersoaked or soggy, as the physician expressed it. In the meantime the temperature of the insured increased until the night before his death it rose to 106.8. The area of the back, which at first had shown a discoloration, finally became soft, broke down, became covered with sores, a purulent condition resulting, and gangrene following. Physicians testified that his death was caused by the fall.

The defendant urged that in the death certificate the attending physician had stated that the causes which produced death were "fall to cellar, bronchopneumonia, or possible septic pressure, injury to back," and that that statement, with the testimony given by the physician on cross-examination, that pneumonia and gangrene are diseases, established the fact that this death was not effected solely through external, violent and accidental means, independently of disease, and that therefore the nonsuit should be sustained; but this court reaches a different conclusion. The language of the policy should be given a natural interpretation, and, however adroitly the clause in question was drawn, it failed of its object, if the words used be given their ordinary meaning as they would be understood by the average man. The court believes that the meaning which the average man would understand from these words would be that, if the procuring cause of death was the injury received by the insured to his back by the fall down the cellar stairs, if that was the efficient cause of the death, the plaintiff could recover under the policy, even though some disease, caused directly and solely by the injury, such as pneumonia or gangrene, might have intervened.

The history of this transaction beginning with the insured's fall on the cellar stairs, and ending with his death, was an accident, and, that being so, the plaintiff's (beneficiary's) claim under the policy should at least have been passed on by the jury. It was for the jury to say, under all the evidence, whether the insured sustained an accidental injury, and that such injury resulted in his death, independently and exclusively of disease. The trial court fell into error in refusing to submit that question to the jury.

Insufficient Complaint of Libel in Report of Record

(Ousdal v. Sansum (Calif.), 260 Pac. R. 322)

The District Court of Appeal of California, first district, division 2, in affirming a judgment for the defendant, who was sued for damages for an alleged libel, says that the complaint alleged that the plaintiff had for a number of years prior thereto been a duly and regularly licensed physician under regulations of the state board of medical examiners, and that he was also licensed by that board to practice as a drugless practitioner in the state; that both licenses were duly recorded in the office of the county clerk of Santa Barbara County, and that he had for some years past been engaged in the practice of his profession as a physician and surgeon and also as a drugless practitioner in that county. It was then alleged that at the request of a named teacher he had given a series of lectures to the students of a teachers' college, and it was planned that he be again requested to give another series of lectures to said students; that the defendant addressed to said teacher a letter; that the defendant intended the letter to charge that the plaintiff was practicing without a license and that it was so understood by the reader of the letter, but it was not alleged who it was who read the letter or what, if anything, was done by the defendant in the nature of a publication of the letter.

When the language of the writing is susceptible of two meanings, one of them harmless and the other injurious, it is necessary for the plaintiff to plead by innuendo the facts on which he relies to point out the injurious meaning of the writing. This is particularly true when the words in question are not libelous per se (in and of themselves), and this rule was applicable here because the inhibitions of the state medical act (statutes 1917, p. 114) covering the practice of a system of treating the sick without having an unrevoked certificate do not cover the case of one practicing his profession without having his name inserted in the official directory.

A fair construction of the defendant's letter was that he had carefully examined the directory of physicians and surgeons published by the state board of medical examiners and that he failed to find the plaintiff's name in that directory as a licensed physician or as a licensed drugless practitioner, but that he did find in said directory the name of another person as the only one listed as entitled to practice as a drugless practitioner in Santa Barbara County. The defendant did not draw conclusions from the facts that the plaintiff was practicing without a license, but merely conveyed the information which he had obtained from this official publication on to the party to whom his letter was addressed. This being the fair interpretation of the writing, the trial court was not bound by the plaintiff's allegations of what he believed the defendant intended to charge or mean as there was nothing in the writing from which an ordinary person could draw any other conclusion than that the defendant was merely conveying to the addressee of the letter the result of his examination of the official directory. Thus, if the cause had gone to trial and the plaintiff had proved nothing more than the matters alleged in his complaint, it would have been incumbent on the trial court to determine whether the letter, as explained by the averments, was libelous, and if it should have determined that it was

not libelous as a matter of law, then the case should have been taken from the jury. Though under a liberal view of the complaint it might be said that it pleaded facts sufficient to permit the plaintiff to put in his evidence, this court is unable to perceive how the plaintiff had suffered by the ruling on the demurrer rather than at a later stage of the proceeding, the trial court having sustained the defendant's demurrer to the complaint.

Liability of Corporation for Necropsy and Services

(E. O. Painter Fertilizer Co. v. Boyd et al. 114 So. R. 444)

The Supreme Court of Florida says that, in the light of the evidence in this case, brought by plaintiffs Boyd and another, physicians and surgeons, the right of action, if any existed, rested on the legal obligations of the defendant corporation to pay for services rendered by the plaintiffs in performing a necropsy on the body of a man who in his lifetime was the president of the corporation, for office advice, and for conference and consultations with various persons, and for services rendered in making a trip to Baltimore and New York. It appeared that the necropsy was performed with the knowledge and at the request of the secretary and cashier (or treasurer) of the corporation and of its head bookkeeper. It is perfectly obvious that, whatever may have been the nature of the services rendered by the plaintiffs in and about the necropsy, such services were neither medicinal nor surgical, because both sciences or arts have for their purposes and objects the healing, curing or alleviation of diseases, deformities or injuries; but the labor performed on the dead body of the former president was not for the purpose of healing or restoring him to life or health, but to ascertain the cause of his death, and secure evidence, as it was claimed, that would be of benefit to the defendant. Yet, as the declaration was, in part, for physicians' and surgeons' fees, and for labor performed, which the evidence showed was on a dead body, over which the corporation had no ownership, control or possession, nor right thereto, the right of action against the defendant must rest on an express or implied obligation on the part of the defendant to pay therefor. The record did not disclose any evidence of an express promise on the part of the corporation to pay for such services, and the promise to pay therefor could not be inferred from the fact that the plaintiffs were called in their professional capacity to render medicinal or surgical assistance or treatment to the person whose body had been recovered from the river into which it had fallen.

Assuming, for the purposes of this case, but expressly refraining from determining the proposition, that it was within the chartered powers of the corporation to employ the plaintiffs to perform the necropsy in question, yet the evidence entirely failed to show that either the secretary and treasurer of the defendant corporation, or its head bookkeeper, was properly authorized to so employ the plaintiffs, it being the general rule that the burden rests on one who seeks to hold a corporation liable for an act on a contract of an officer or agent to show that the doing of the act or the execution of the contract was properly authorized, or that it was properly ratified by the corporation. The record wholly failed to show any such employment by any duly authorized officer or agent of the corporation, unless the duties of such secretary and cashier or of such head bookkeeper gave them authority to request such services for and at the expense of the corporation. In view of the testimony, it does not appear that the duties of a secretary and cashier or of a head bookkeeper of a manufacturing corporation such as was the defendant are such that the law implies therefrom authority to employ physicians and surgeons to perform necropsies on the dead body of an officer of the corporation, and therefore a request from them to perform such service is not in law the request of the corporation, and, no ratification of their acts by the corporation being disclosed, liability therefor is not shown.

With reference to a new president that was elected, the court holds that an express contract of employment made by the president of a corporation with physicians and surgeons to obtain information concerning the results of a chemical and microscopic examination of parts of the body of an officer of such corporation, made by others to determine the presence or absence of poison therein, and bearing on the cause of death, whether by suicide or by accidental drowning, when it was disclosed, after a necropsy was held, that such deceased person had insured his life for the benefit of the corporation, was within the apparent scope of the powers of such corporation, was binding on the corporation, and such physicians and surgeons could recover from such corporation for such services on account for work done and materials furnished. But physicians and surgeons, employed by duly authorized agents of a corporation to obtain information from others, and to report the same for an agreed consideration, in an action of assumpsit on the common counts, cannot recover additional compensation for conferences with officers of such corporation held for the purpose of obtaining from such physicians and surgeons such information.

In short, the evidence in this case was found not to sustain a verdict for fees for services rendered by the plaintiffs in performing a necropsy or for conferences and consultations.

Society Proceedings

COMING MEETINGS

American Medical Association, Minneapolis, June 11-15. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Association for the Study of Allergy, Minneapolis, June 11-12. Dr. A. H. Rowe, 242 Moss Avenue, Oakland, Calif., Secretary.

American Association for the Study of Goiter, Denver, June 18-20. Dr. K. W. Kinard, Bryant Building, Kansas City, Mo., Secretary.

American Association for the Study of the Feebleminded, Atlantic City, May 31-June 2. Dr. H. W. Potter, Thiells, New York, Secretary.

American Association of Industrial Physicians and Surgeons, Rochester-Minneapolis, June 11-12. Dr. V. S. Cheney, 5446 S. Haisted Street, Chicago, Acting Secretary.

American Federation of Organizations for the Hard of Hearing, St. Louis, June 18-22. Miss Betty C. Wright, 1601, 35th Street, N. W., Washington, D. C., Secretary.

American Heart Association, Washington, D. C., June 12. Dr. Haven Emerson, 370 Seventh Avenue, New York, Secretary.

American Physiotherapy Association, Minneapolis, June 11-12. Miss I. M. Hazenhyer, 2900 Mildred Avenue, Chicago, Secretary.

American Proctologic Society, Rochester-Minneapolis, June 9-12. Dr. W. A. Fansler, 531 LaSalle Building, Minneapolis, Secretary.

American Psychiatric Association, Minneapolis, June 4-8. Dr. Earl D. Bond, 4401 Market Street, Philadelphia, Secretary.

American Psychopathological Association, Minneapolis, June 8. Dr. M. W. Peck, 520 Commonwealth Avenue, Boston, Secretary.

American Radium Society, Minneapolis, June 8-9. Dr. G. Grier, Jenkins Arcade Building, Pittsburgh, Secretary.

American Society of Clinical Pathologists, Minneapolis, June 8-11. Dr. W. T. Burdick, Republic Building, Denver, Secretary.

American Therapeutic Society, Minneapolis, June 9-11. Dr. W. J. Mallory, 1720 Connecticut Avenue, N. W., Washington, D. C., Secretary.

American Urological Association, Chicago, June 7-9. Dr. Alexander Randall, Medical Arts Building, Philadelphia, Secretary.

Associated Anesthetists of the United States and Canada, Minneapolis, June 11-12. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.

Association for the Study of Internal Secretions, Minneapolis, June 12. Dr. F. M. Pottenger, Title Insurance Building, Los Angeles, Secretary.

Association of American Teachers of the Diseases of Children, Minneapolis, June 12. Dr. Paul W. Emerson, 86 Bay State Road, Boston, Secretary.

Boston Trudeau Society, Boston, June 4. Dr. Randall Clifford, 475 Commonwealth Avenue, Boston, Secretary.

Conference of State and Provincial Health Authorities, St. Paul, June 8-9. Dr. A. J. Chesley, State Department of Health, St. Paul, Secretary.

Connecticut State Medical Society, Bridgeport, May 23-24. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

International Anesthesia Research Society, Minneapolis, June 11-12. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.

Maine Medical Association, Belgrade Lakes, June 18-20. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.

Massachusetts Medical Society, Worcester, June 5-6. Dr. Walter L. Burrage, 182 Walnut Street, Brookline, Secretary.

Medical Women's National Association, Minneapolis, June 11-12. Dr. Helen L. Palliser, 251 Church Street, Poughkeepsie, N. Y., Secretary.

Minnesota State Medical Association, Minneapolis, June 18. Dr. E. A. Meyerding, 11 West Summit Avenue, St. Paul, Secretary.

National Tuberculosis Association, Portland, Ore., June 18-20. Dr. C. J. Hatfield, Henry Phipps Institute, Philadelphia, Secretary.

New Jersey, Medical Society of, Atlantic City, June 6-9. Dr. J. B. Morrison, 66 Milford Avenue, Newark, Secretary.

New York, Medical Society of the State of, Albany, May 21-24. Dr. D. S. Dougherty, 2 East 103d Street, New York, Secretary.

North Dakota State Medical Association, Devils Lake, May 23-24. Dr. J. G. Lamont, San Haven, Secretary.

Pacific Northwest Medical Association, Tacoma, Washington, July 5-7. Dr. Frederick Epplen, 511 Olive Street, Seattle, Secretary.

Rhode Island Medical Society, Providence, June 7. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.

West Virginia State Medical Association, Fairmont, May 21-24. Mr. Joe W. Savage, 303 Professional Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Issues of periodicals are kept on file for a period of five years only. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending, but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. Obstetrics and Gynecology, St. Louis

15: 295-452 (March) 1928

*Fluctuation in Blood Sugar During Eclampsia and Its Relation to Convulsions. P. Titus, P. Dodds and E. W. Willetts, Pittsburgh.—p. 303.
*Place of Vaginal Cesarean Section in Obstetrics. L. E. Phaneuf, Boston.—p. 325.
Immediate Repair of Birth Canal Injuries Following Delivery. I. W. Potter, Buffalo.—p. 336.
*Etiology and Treatment of Bleeding Uterus. H. Schmitz, Chicago.—p. 344.
Early Diagnosis of Cancer. W. P. Healy, New York.—p. 353.
*Premature Separation of Normally Implanted Placenta. F. S. Kellogg, Boston.—p. 357.
*Prognosis in Acute and Chronic Nephritis of Pregnancy from Standpoint of Classification. R. D. Mussey and N. M. Keith, Rochester, Minn.—p. 366.
Significance of Retrodisplacements of Uterus and Principles Involved in Satisfactory Correction. D. Hadden, Oakland, Calif.—p. 373.
*Clostridium Welchii Septicemia Complicating Prolonged Labor Due to Obstructing Myoma of Uterus. P. W. Toombs and I. D. Michelson, Memphis, Tenn.—p. 379.
*Is Expectant Plan of Treating Hydatidiform Mole Justified? P. B. Bland, Philadelphia.—p. 390.
Pregnancy and Parturition in Primiparas with Bicornuate Uteri. F. H. Falls, Chicago.—p. 399.
*Prophylaxis of Postoperative Pyelitis. W. T. Dannreuther, New York.—p. 406.
Vomiting of Pregnancy. E. Speidel, Louisville.—p. 411.
Treatment of Vaginismus. F. Reder, St. Louis.—p. 420.
Modern Obstetrics in Home. J. R. Bloss, Huntington, W. Va.—p. 424.

Carbohydrate Metabolism in Eclampsia.—Evidence is presented by Titus et al. to demonstrate that in eclampsia the disturbance in carbohydrate metabolism, heretofore assumed, actually exists. This disturbed metabolism is apparently the result of the carbohydrate deficiency in pregnancy. Contrary to the general opinion, hyperglycemia is not characteristic of eclampsia. Serial blood sugar readings during an attack of eclampsia show wide fluctuations in exceedingly short intervals of time. Similar series in normal pregnant women near term show no such variations. The convulsive seizures occur at levels which are designated as "relative hypoglycemia," and apparently are caused by the sudden drops in blood sugar. In this respect eclamptic convulsions are comparable to those of insulin hypoglycemia. Following a convulsion, there is usually a temporary rise in blood sugar, the customary physiologic response of the liver to muscular activity. There exists a tendency toward remissions to lower levels, so that the general trend of the sugar content of the blood in eclampsia is downward, obviously the effect of exhaustion of reserve glycogen stores in the liver. The nephritis of preclampsia and eclampsia, as well as of grave hyperemesis, is not the forerunner but an incidental symptom and result of the intoxication. With the view that the convulsions of eclampsia are to be designated as a hypoglycemic reaction or manifestation, the use of insulin either with or without dextrose in the treatment of this disease is unnecessary and contraindicated. Appropriate treatment for eclampsia as established by these glycemia-curve studies consists of two main features: (*a*) complete muscular rest and relaxation, as induced by quiet, isolation and the use of morphine by hypodermic injection, chloral hydrate by bowel, and magnesium sulphate by hypodermic or intravenous injection, and (*b*) the intravenous injection of strongly hypertonic dextrose solution. The therapeutic dose of dextrose for an adult is a minimum of from 50 to 75 Gm. in from 200 to 300 cc. of distilled water (25 per cent solution), given by intravenous injection over a period of not less than one hour and repeated after intervals of from four to five hours according to the needs and response of the patient.

Indications for Vaginal Cesarean Section.—According to Phaneuf, vaginal cesarean section is a useful operation when an indication for immediate delivery arises in a gravida with a long, rigid, undilated cervix, up to the end of the eighth month of gestation. The operation may be done at term, but here the difficulties are greater, and there is danger of the incisions tearing in the peritoneal cavity because of the large size of the child. A previous low cervical cesarean section complicates the technic of the operation, since the anterior peritoneal culdesac has been obliterated. This may predispose to injury to the bladder during delivery. Since the operation is extraperitoneal, postoperative complications are negligible. The puerperium, as a whole, resembles that of any operative pelvic delivery.

Classification of Uterine Hemorrhages.—Schmitz proposes a classification of uterine hemorrhages based on the etiologic factors. The types of uterine hemorrhages have been grouped into (*a*) menorrhagias and (*b*) metrorrhagias. The menorrhagias have been subdivided into hypermenorrheas, if the menses are too profuse or last too long, and polymenorrheas, if the menses occur too soon. Hemorrhagic metropathy, or endometrial hyperplasia due to a persistent ovarian follicle, is the most important form of the metrorrhagias, if malignant diseases are excluded. Schmitz urges that curettage be performed and the scrapings examined microscopically if the cause of the bleeding cannot be determined. Otherwise hidden malignant disease may be overlooked.

Premature Separation of Placenta: Anuria.—Kellogg believes that anuria in separated placenta is a complication to be feared and to be combated, from the first moment that the patient is seen, with forced fluids by mouth, by rectum and subcutaneously, with dextrose, 25 per cent, intravenously, and usually with transfusion. From 6,000 to 7,000 cc. of fluids may be given, according to the daily reaction of the blood pressure and the condition of specimens obtained at eight-hour intervals by catheterization. The preservation of a relatively high blood pressure is an important part of the treatment, and it represents a protective mechanism against the anuria. In the eclamptic group of separated placentas, lowering the pressure to control convulsions should be exercised with great caution lest the patient be aided to become anuric. The etiologic factor in the toxemia of pregnancy and the toxic separation of the placenta is sometimes, at least, the same. Extreme supervision should be exercised after a toxemic patient has improved to the point of discharge, and she should be warned to remain quiet and report if she has the slightest bleeding or abdominal pain. Decapsulation of the kidney has no place in these cases. Every effort should be made by obstetricians and clinics to link up these cases with the "toxemia-chronic nephritic" group, studying them with careful tests and gathering all available data, over the longest possible period.

Prognosis of Nephritis of Pregnancy.—Mussey and Keith assert that most pregnant women with acute nephritis recover with little or no demonstrable impairment of renal function. In some cases the disease will progress to the chronic stage. Many pregnant women with a history of nephritis but without any gross impairment of renal function can be carried safely through pregnancy under careful supervision. Chronic nephritis with seriously lowered renal function distinctly increases the hazard to mother and child.

Puerperal Septicemia Due to Clostridium Welchii.—Forty-one cases of puerperal septicemia due to *Clostridium welchii* are reviewed by Toombs and Michelson. It is shown that abortion is the most important cause in the etiology of gas bacillus infection. Pain in the abdomen, fever, rapid pulse, jaundice, cyanosis, air hunger, hemoglobinuria, hemoglobinemia, and rapidly progressive secondary anemia with pathologic bone marrow cells in the circulating blood form the clinical entity for the diagnosis of gas bacillus sepsis. Hysterectomy, administration of antitoxin, and blood transfusion seem to constitute the most logical treatment.

Chorionic Villous Diseases.—Ten cases of chorionic villous disease are reported by Bland. Six of the patients developed chorio-epithelioma. Four recovered and two died. Four of the patients had simple moles. Two recovered and two died.

Prophylaxis of Postoperative Pyelitis.—Acute pyelitis occurred in six instances during convalescence in a series of 500 consecutive patients subjected to pelvic operations, a morbidity of 1.2 per cent. All six patients suffered from obstinate constipation and a pronounced indicanuria before operation. An inexplicable rise in temperature between the tenth and eighteenth postoperative days, accompanied by nausea, lumbar pain or headache should arouse suspicion of an acute pyelitis. Colon bacilli will almost invariably be found in the urine. Thorough preoperative intestinal cleansing and elimination of decomposing material, together with the administration of methenamine, are regarded by Dannreuther as being efficient prophylactic measures.

American J. Pathology, Boston

4: 91-180 (March) 1928

*Pathologic Conditions Caused by Filtrable Viruses. T. M. Rivers, New York.—p. 91.
Study of Histopathology of So-Called Adenosarcoma of Swine. W. H. Feldman, Rochester, Minn.—p. 125.
Leiomyosarcoma of Spleen in Bovine. W. H. Feldman, Rochester, Minn. —p. 139.
Histology of Tumors of Nervous Acusticus. C. P. Rhoads and W. P. Van Wagenen, Boston.—p. 145.
Method of Staining Oligodendroglia and Microglia (Combined Method). W. Penfield, New York.—p. 153.
*Inflammatory Basis for Coronary Thrombosis. A. N. Boyd, Nashville, Tenn.—p. 159.
*Incubated Leukemic Bloods. F. Parker, Jr., and C. P. Rhoads, Boston. —p. 167.

Pathologic Conditions Caused by Filtrable Viruses.—The views expressed by Rivers concerning the pathologic conditions observed in virus disease are consistent with living or with lifeless incitants multiplying either intracellularly or extracellularly. The pathologic changes, however, as well as other phenomena, emphasize the fact that in virus diseases an intimate type of parasitism exists. There are diseases caused by certain peculiar incitants, viruses, that produce in their hosts pathologic changes not entirely unlike those found in other diseases, but sufficiently different from them in regard to phenomena related to proliferation and degeneration to warrant placing such agents in a group by themselves. If proliferative phenomena predominate, pathologic conditions such as warts, molluscum contagiosum and tumors result. If destructive or retrograde changes prevail, diseases such as varicella, vesicular stomatitis and lysis of bacteria are the consequence. Cells affected by many of the diseases in the group exhibit intracellular changes sufficiently characteristic to be spoken of as inclusion bodies. These structures are probably closely related to the proliferative and degenerative phenomena induced in cells by the action of viruses.

Etiology of Coronary Thrombosis.—Two cases of thrombosis of the left coronary artery are reported by Boyd. An acute inflammation of the atheromatous plaques appears to have been the immediate cause of the deposition of thrombus. Boyd is convinced that an extensive suppurative process in a person with arteriosclerosis may cause an acute exacerbation of the vascular lesions wherever they are situated, and in the case of the coronaries may lead to a fatal thrombosis.

Study of Mononuclear Phagocyte.—Additional information was sought by Parker and Rhoads concerning the origin and physiologic activities of the mononuclear phagocyte. Blood from eight patients with myelogenous leukemia and seven patients with lymphatic leukemia was incubated at 37.5 C. Specimens were removed at varying periods and were studied supravitally and in fixed smears. In all the cases of myelogenous leukemia and in two in the lymphatic series, two types of cells appeared that are not seen in blood under ordinary conditions. The first, termed by the authors the X cell, appeared usually about the fourth day and increased in size and in number for several days. The longest time of survival was seven weeks. These cells have round nuclei and basophilic cytoplasm, often with pink or purplish granules; their shape is irregular; they vary from strongly oxidase-positive to negative, and they are phagocytic. In the supravital preparation they show numerous fine neutral red granules throughout the cytoplasm but also often in addition in a rosette form, frequently with a clear centrosphere; phagocytosis is always at the periphery of the cell. The other type of cell, the large Y cell, has one or two round to oval nuclei and bluish cytoplasm with numerous vacuoles; it is usually oxidase-positive, though sometimes negative, and in the vital preparations it has a large rosette of neutral red and the surrounding cytoplasm is filled with large refractile granules. Phagocytosis is always at the periphery, and this cell is usually round. The origin of both these types of cells is at present undetermined.

American J. Tropical Medicine, Baltimore

8: 103-202 (March) 1928

*Experimental Transmission of Yellow Fever to Laboratory Animals. A. Stokes, J. H. Bauer and N. P. Hudson, Lagos, Nigeria.—p. 103.
Mollusks of Importance in Human and Veterinary Medicine: I. J. Bequaert, Boston.—p. 165.
*Epidemiology of Malaria in Palestine. I. J. Kligler, Jerusalem.—p. 183.

Experimental Yellow Fever.—Yellow fever was successfully transmitted by Stokes et al. to *Macacus rhesus*. It was easily transmitted from man to monkey, as well as monkey to monkey, by the injection of citrated blood taken early in the course of the disease. It was also transmitted from monkey to monkey by *Aedes* (*Stegomyia*) *acgypti*. Mosquitoes, when once infected, were found to remain infective for the entire period of their lives, which exceeded three months in some instances, and the bite of a single infected mosquito was sufficient to produce a fatal infection in a monkey. The virus was not transmitted from one generation of mosquitoes to another through the eggs. When in the circulating blood of monkeys, the virus passed through Berkefeld filters of V and N grades, and also through Seitz asbestos filters, but it was not filtrable through Berkefield W filters. The virus was not filtrable when in the mosquitoes. The clinical course of the disease and the lesions produced by the virus in *Macacus rhesus* were similar to those found in human yellow fever. Attempts to cultivate the virus either from infectious blood or from filtered mosquito emulsions were negative. No spirochetes, leptospiras, or other forms of micro-organism were found in the tissues of infected animals stained by the Giemsa and Levaditi methods. Indian crown monkeys (*Macacus sinicus*) were susceptible to yellow fever only to a moderate degree. Chimpanzees, local African monkeys, and guinea-pigs were totally refractory.

Epidemiology of Malaria in Palestine.—Evidence is presented by Kligler which establishes the relationship of the climate and the bionomics of the local anopheles to the prevalence and periodicity of epidemics. It is shown that the distribution of rainfall and the prevailing temperatures (indoor and marsh) by affecting the type and conditions of anopheles breeding modify the intensity and recurrence of epidemics. Attention is also called to the fact that the biology and habits of the anopheles, and particularly their range of flight and dispersion, have an important relation to the epidemiology of disease and the occurrence of epidemics in unexpected places and at unusual seasons.

Archives of Dermatology and Syphilology, Chicago

17: 293-450 (March) 1928

Therapy of Syphilis. W. L. McBride and C. C. Dennie, Kansas City, Mo.—p. 293.
*Hepatitis of Early Syphilis: Blood Bilirubin Determinations as Possible Aid in Diagnosis and Guide to Treatment. J. A. Elliott and L. C. Todd, Charlotte, N. C.—p. 299.
*Acute Syphilitic Phlebitis. H. Morrow and N. N. Epstein, San Francisco.—p. 309.
*Reliability of Kolmer-Wassermann Reaction in Pregnancy. A. W. Stillians, Chicago.—p. 318.
Effect of Extremely Hot Baths in Experimental Syphilis. J. F. Schamberg and A. Rule, Philadelphia.—p. 322.
*Intravenous Injections of Bismuth Compounds in Treatment of Syphilis. J. V. Klauder, Philadelphia.—p. 332.
Fungi and Fungus Diseases: III. A. Castellani, New Orleans.—p. 354.
*Method for Preparation of Colloidal Gold for Lange Test on Cerebrospinal Fluid. S. L. Leiboff, New York.—p. 380.
*Specificity of Kahn Reaction in Febrile Diseases. J. W. Mu and H. L. Keim, Peking.—p. 387.

Hepatitis of Early Syphilis.—Treatment with bismuth proved to be of great value in the case reported by Elliott and Todd. They found the icterus index determination and the van den Bergh test most useful methods for determining liver dysfunction. The icterus index as a quantitative esti-

mation of blood bilirubin and the van den Bergh test as a qualitative reaction are distinct aids in diagnosis and should be used as guides to treatment. Twenty-five control cases of early syphilis did not show any increase in the blood bilirubin before treatment. In twenty-two of these the reactions remained normal throughout treatment; the three remaining cases showed a blood bilirubin content slightly above the upper limit of normal at one time during treatment.

Acute Syphilitic Phlebitis.—Morrow and Epstein report the case of a man, aged 30, in the secondary stage of syphilis who presented a phlebitis of the superficial veins of the lower extremities. The phlebitis came on during the fourth month of the infection, beginning in the left calf and later appearing in the right calf as the first lesion subsided. The patient improved markedly under treatment with arsphenamine, but the condition recurred when he resumed his work. A second, but milder recurrence developed later. The patient's occupation and alcoholic tendencies were predisposing factors in the production of the phlebitis. The involvement of the small venules over the surface of the right leg, as shown by three areas of erythema during the first recurrence, was unusual.

Wassermann Reaction in Pregnancy.—In a series of 6,954 pregnant women, mostly white, 6 per cent had positive Wassermann reactions. In a series of 814 pregnant negroes, 19.2 per cent had positive Wassermann reactions. The false positive Wassermann reaction occurred in not more than 2.5 per cent of the positive cases in this series; in all probability, much less frequently. False negative reactions, both complement-binding and flocculation, often occur in pregnancy. The flocculation tests are valuable aids in the diagnosis of syphilis in pregnancy. In Stillians' opinion, the Wassermann reaction has almost the same diagnostic value in the pregnant as in the nonpregnant woman.

Use of Bismuth Compounds in Treatment of Syphilis.—The status of bismuth compounds administered intravenously in the therapy of syphilis is shown, according to Klauder, in the following: The injection of drugs into the circulation should not be practiced indiscriminately. Bismuth compounds are more toxic when administered intravenously than when administered intramuscularly. The amount of a single injection of bismuth compounds should not exceed 0.05 Gm. of the metal; injections of more than this amount are of questionable safety. It may here be recalled that 0.2 Gm. of a bismuth preparation, high in bismuth content, is uniformly well tolerated when injected intramuscularly. Bismuth compounds injected intravenously may produce albuminuria. When intravenous injections of bismuth compounds are used alone in the treatment of patients with early syphilis, weekly injections are probably insufficient. It is of importance that treatment be continuous. Indeed, it is doubtful whether treatment of a patient with early syphilis solely with bismuth compounds administered intravenously is justified. In view of the greater toxicity of the drug when administered intravenously, which necessitates limitation of dosage, and its rapid excretion, it is doubtful whether the intravenous route is more effective in the therapy of syphilis than the intramuscular route. A possible exception is the following circumstance: By reason of the greater spirocheticidal action of bismuth compounds injected intravenously, such injections may find a place in the therapy in early cases of syphilis in conjunction with other treatment, particularly in patients intolerant to arsenic. In such patients the use of both intravenous and intramuscular injections with bismuth compounds doubtless offers more in therapeusis than bismuth compounds administered only intramuscularly. Again, in patients other than those in the acute early stage of syphilis, as, for example, Wassermann-fast patients, the administration of bismuth compounds intravenously may be of some value; however, this phase of intravenous administration of bismuth compounds was not investigated in this study.

Preparation of Colloidal Gold.—A method is described by Leiboff whereby a colloidal gold solution can easily be prepared with ordinary distilled water by reducing an alkaline solution of gold chloride with saccharose. A method is also described for the titration of colloidal gold to make it adaptable for the performance of the Lange test on cerebrospinal fluids.

Specificity of Kahn Reaction in Febrile Diseases.—The blood of 106 febrile patients—including patients with pneumonia and typhus, relapsing and typhoid fever—was examined by Mu and Keim with the Kahn and with the Kolmer-Wassermann reactions. The examinations were made at the height of the fever and repeated in from five to twenty days after the subsidence of the fever. The two reactions gave parallel and specific results. The balance was somewhat in favor of the Kahn reaction, since its results fluctuated least as a result of the fever.

Archives of Physical Therapy, X-Ray, Radium, Omaha

9: 97-144 (March) 1928

Treatment of Hepatic and Cardiac Syndrome by Physical Measures. W. Martin, Atlantic City, N. J.—p. 97.
*Value of Quartz Light Therapy in Chronic Bronchitis of Children. H. H. Perlman, Philadelphia.—p. 100.
Diathermy, Valuable Aid to Industrial Surgery. E. M. Stansbury, Vermillion, S. D.—p. 108.
Radiant Heat and Light in Treatment of Leg Ulcers and Allied Conditions. G. W. Putnam, Aurora, Ill.—p. 112.
Treatment of Postfebrile Conditions with Special Reference to Influenzal Type. B. H. Sherman, Dexter, Iowa.—p. 114.
Technic and Application of Wavelengths in Dentistry. C. B. Holman, St. Louis.—p. 118.
Heliotherapy. W. H. Watters, Boston.—p. 122.

Quartz Light Therapy of Chronic Bronchitis.—Perlman asserts that ultraviolet rays, also known as artificial heliotherapy, quartz light and mercury vapor quartz light, are of distinct value in the treatment of chronic bronchitis in children. Their greatest usefulness is to be found in those types of chronic coughs ordinarily not benefited by routine drug therapy. Nontuberculous bronchitis yields far better results with quartz light than does bronchitis of Koch origin. Ultraviolet therapy is of value in enlarged thymus. Its use in this condition is not unlike that of roentgen-ray therapy. Under the influence of quartz light, children with an enlarged thymus lose their wheezing; dyspnea improves, and the thymic stridor rapidly disappears.

Georgia M. Association Journal, Atlanta

17: 97-142 (March) 1928

Apoplectic and Apoplectiform Seizures: Etiology and Management. W. A. Smith, Atlanta.—p. 97.
Radium in Cancer of Cervix: Fifty-Eight Cases, with Thirty-One Per Cent Five-Year Cures. C. C. Harrold, Macon.—p. 103.
Malta Fever: Five Cases. W. E. Ragan, Atlanta.—p. 106.
Prophylaxis of Diarrhea. J. J. Crumbley, Sylvester.—p. 111.
Tuberculosis. A. M. Dimmock, Atlanta.—p. 113.
Huge Osteoma of Pelvis. . W. Birdsong, Atlanta.—p. 117.
Diuretics in Ascites. J. W. Daniel, Savannah.—p. 119.
Instrument for Inverted or Retracted Nipples. L. Bivings, Atlanta.—p. 120.
Intestinal Obstruction Complicating Pregnancy. B. T. Beasley, Atlanta.—p. 121.

Journal of Infectious Diseases, Chicago

42: 179-262 (March) 1928

Attenuation and Toxin Production of Diphtheria Bacillus. A. Wadsworth and M. W. Wheeler, Albany, N. Y.—p. 179.
Serum Therapy of Botulism in Monkeys. G. M. Dack and W. L. Wood, Chicago.—p. 209.
Mechanism of Toxin Production by Cl. Botulinum. G. M. Dack and W. L. Wood, Chicago.—p. 213.
Serum Reactions Produced by Feeding Antigens. L. P. Doyle, LaFayette, Ind.—p. 218.
*Bacillus Enteritidis Septicemia. C. Li and Y. Ni, Peking.—p. 226.
*Apparently Undescribed Hemolytic Anaerobic Diplococcus: Influenza Studies XXXIII. S. E. Branham, Chicago.—p. 230.
New Differential Medium for Paratyphoid Group. E. O. Jordan and P. H. Harmon, Chicago.—p. 238.
Rapid Macroscopic Agglutination for Serum Diagnosis of Bang's Abortion Disease. I. F. Huddleson and E. Abell, East Lansing, Mich.—p. 242.
Protective Substance in Antipneumococcus Serum: 4. Separation of Phosphorus and Some Inert Protein from Water-Insoluble Precipitate of Antipneumococcus Serum. L. D. Felton, Boston.—p. 248.
Id.: 5. Febrile Reaction from Intravenous Injection. L. D. Felton, Boston.—p. 256.

Bacillus Enteritidis Septicemia.—A case of septicemia caused by *Bacillus enteritidis* (Gärtner), in which there was a febrile course for about three weeks and a purpuric rash over the entire surface of the body, is reported by Li and Ni.

The diagnosis was made by serologic tests as well as by isolation of *B. enteritidis* from the blood, urine, feces and saliva.

Hemolytic Anaerobic Diplococcus in Colds.—Two strains of a tiny, gram-negative, hemolytic diplococcus have been isolated by Branham from the nasopharyngeal washings of persons with old colds. Although these two strains are apparently quite distinct from *Staphylococcus parvulus* or *Micrococcus gazogenes,* it does not seem advisable to the author to name them as a new species until more than two strains have been found.

Journal of Pharmacology & Exper. Therap., Baltimore

32: 321-411 (March) 1928

*Toxicology of Mercurochrome Alone and in Combination with Glucose. D. I. Macht and W. C. Harden, Baltimore.—p. 321.
*Effect of Salicylates on Nitrogen Metabolism: Effect of Cation of Salt. G. P. Grabfield and E. Knapp, Boston.—p. 341.
Supposed Influence of Polarized Light on Deterioration of Digitalis. W. R. Bond and E. W. Gray, Richmond, Va.—p. 351.
Influence of Certain Arsenicals on Sulphur Excretion. F. P. Underhill and A. Dimick, New Haven, Conn.—p. 359.
Studies on Crystalline Insulin: III. Nature of Sulphur Linkage. Isolation of Cystine and Tyrosine from Hydrolyzed Crystalline Insulin. V. du Vigneaud, H. Jensen and O. Wintersteiner, Baltimore.—p. 367.
Id.: IV. Isolation of Arginine, Histidine and Leucine. H. Jensen, O. Wintersteiner and V. du Vigneaud, Baltimore.—p. 387.
Id.: V. Distribution of Nitrogen in Crystalline Insulin. O. Wintersteiner, V. du Vigneaud and H. Jensen, Baltimore.—p. 397.

Toxicity of Mercurochrome.—The toxicity of mercurochrome alone was studied by Macht and Harden for animals and for plants. It is asserted that this mercurial is about three times less toxic than was originally claimed, and that on combining it with dextrose its toxicity is decreased. In administering mercurochrome with dextrose for therapeutic purposes, great care must be taken to combine or mix the two preparations only immediately before injection at the bedside of the patient, because mixtures of mercurochrome with dextrose in vitro begin to interact and cause precipitation of metallic mercury within twenty-four hours.

Effect of Salicylates on Nitrogen Metabolism.—Grabfield and Knapp report that an increase of 10 per cent in the total urinary nitrogen, total sulphur, total sulphate, and inorganic sulphate followed the administration of lithium, sodium and potassium salicylates to physically normal persons on a weighed diet. The uric acid excretion was increased 30 per cent. The increase in the total nitrogen excretion occurred immediately when the sodium salt was given, but was delayed for two days when the potassium salt was used. The excretion of uric acid was most prompt after the lithium salt was given, and less prompt with sodium and potassium in the order named.

Journal of Preventive Medicine, Baltimore

2: 79-189 (March) 1928

*Mortality from Tuberculosis in Chicago. L. Robey and I. S. Falk, Chicago.—p. 79.
*Studies of Acute Respiratory Infections: I. W. C. Noble, Jr., E. A. Fisher and D. H. Brainard, New York.—p. 105.
*Precipitin Test in Malaria. W. H. Taliaferro and L. G. Taliaferro, Chicago.—p. 147.
*Intradermal Reaction in Experimental Trichiniasis. G. W. Bachman, Chicago.—p. 169.
*Immunization of Rabbits Against Experimental Pneumococcus Infections. G. W. Stuppy and I. S. Falk, Chicago.—p. 175.

Mortality from Tuberculosis in Chicago.—The mortality rates from all forms of tuberculosis for the city of Chicago have declined from 173.8 in 1900 to 83.0 in 1926. Robey and Falk report declines in the rates from pulmonary tuberculosis, and from forms other than pulmonary. Since 1922, the general mortality from pulmonary tuberculosis has increased. The mortality rates for males are higher than those for females. Mortality from tuberculosis is from two and a half to three times as high for the negro as for the white population. The marked decline in the tuberculosis mortality in the last twelve years has been in the age periods from 0 to 11 years, and from 20 to 60. The lowered mortality in the first few years of life is due to a very marked decrease in the number of deaths from forms of tuberculosis other than pulmonary. The declines in the rates after 20 years of age are due to reductions in the death rates from pulmonary tuberculosis. The highest death rates from tuberculosis for children under 11 years of age come in April. In persons under 11 years of age, the mortality from tuberculosis is astonishingly high among negroes. Nearly 41 per cent of the deaths in this age group in 1926 were in negro children, although it is estimated that only 3 per cent of the children under 11 years of age are negroes. The highest percentage of deaths in which autopsies were obtained in 1926 occurred among children dying from miliary and disseminated tuberculosis.

Bacteriology of Acute Respiratory Infections.—The nasopharyngeal flora of two groups of subjects has been studied by Noble et al. to determine the normal flora and its variations in colds, the first group by a single culture from each subject, the second by serial cultures at weekly intervals for a period of one year. The normal flora was not constant; it varied with the subject, and also with cultures taken at different times from the same subject. The average basic flora consisted of green streptococci and gram-negative cocci. Only the former were basic for all subjects. Other species were basic for some subjects. Frequent transients in some subjects were indifferent streptococci, typical influenza bacilli, pneumococci, staphylococci and diphtheroids. These were, however, basic in other subjects. Other bacteria occurred as frequent transients but in smaller number. Occasional transients were hemolytic streptococci, *Micrococcus catarrhalis* and Friedländer's bacillus. Changes in flora were observed in twelve of the twenty-eight colds studied, as shown by the appearance of foreign organisms, or such an increase of normal species that they became dominants. Pneumococci and typical influenza bacilli appeared as foreign organisms, the former once as late secondary invaders, the latter twice just before or coincident with the onset of illness. These same organisms, and also staphylococci and indifferent streptococci, became the dominants in nine colds; they had occurred previously in the normal flora of the subjects. The possible etiologic rôle of influenza bacilli was suggested in three cases.

Precipitin Test.—Five lots of an antigen prepared by the Taliaferros from the blood squeezed out of a placenta infected with *Plasmodium falciparum* by concentrating the material parasites by centifugalization, drying in vacuo over sulphuric acid, digesting the dry powder in twentieth-normal hydrochloric acid for not more than twenty hours, and adjusting the p_H of the supernatant fluid to about 7.8 with twentieth-normal sodium hydroxide, gave the following results when tested with seventy-eight serums: serums from thirty-four infected persons gave twenty-nine positive tests (3+++, 14++ and 12+) and five negative tests; serums from forty-four persons not infected gave nine positive tests (no+++, 2++ and 7+), three doubtful positives and thirty-two negatives. It seems probable that the dried concentrate can be preserved over long periods. Preliminary tests with an antigen prepared by extracting the same type of concentrate with Coca's solution and preserving under toluene also gave promising results. No marked success was obtained from various antigens prepared from an infected spleen or from concentrated cultures.

Intradermal Reaction in Experimental Trichiniasis.—Twelve rabbits infected with *Trichinella* (the whole number tested) showed a local skin reaction, specific in character, following the intracutaneous injection of *Trichinella* protein. In all the eighteen normal rabbits tested, the thirty-six preliminary tests before infection were uniformly negative. Bachman noted typical skin reactions as early as the second day after feeding trichinous meat.

Immunization Against Experimental Pneumococcus Infections.—Stuppy and Falk found that the injection into the buccal mucosa of a killed pneumococcus (type I) vaccine in 1 minim (0.06 cc.) amounts on ten successive days conferred general immunity on rabbits.

Maine M. Association Journal, Portland

19: 37-50 (March) 1928

Systemic Infection of Otogenous Origin. C. H. Gordon, Portland.—p. 37.
Roentgenologic Aspects of Some Intrathoracic Lesions. F. B. Ames, Bangor.—p. 43.

Medical Journal and Record, New York

127: 349-404 (April 4) 1928

Anesthesia and Inhalation Therapy as Combined Specialties. J. H. Evans, Buffalo.—p. 349.
Results Obtained in Corrective Rhinoplasty. L. Cohen, Baltimore.—p. 354.
Senile Ear. G. B. McAuliffe, New York.—p. 358.
Orbital Cellutitis Due to Empyema of Ethmoidal Labyrinth. T. A. Woodruff and E. B. Gray, New London, Conn.—p. 359.
*Etiology of Constipation and Incidental Hemorrhoids: Prevention and Cure. J. J. E. Maher, New York.—p. 360.
Aural Exostosis: Case with Bad Results Following Operation. J. C. Scal, New York.—p. 363.
Medicine and Surgery of Lewis and Clark Expedition. L. L. Stanley, San Quentin, Calif.—p. 364. (C'td.)
Device for Indicating Presence of Bucket in Duodenum. M. Einhorn, New York.—p. 367.
Infant Feeding. H. B. Mills, Philadelphia.—p. 369.
Id.: Importance of Breast Feeding. C. B. Conklin, Washington, D. C. —p. 374.
Congenital Cancer: Case Report. E. S. Lain, Oklahoma City.—p. 377.
Diarrheal Diseases of Infancy. H. S. Snyderman, Philadelphia.—p. 379.
Results in Congenital Goiter. H. H. Skinner, Yakima, Wash.—p. 381.
Pseudo-Appendicitis in Children. F. Shapiro, New York.—p. 383.
Anatomy in Middle Ages. E. Wickersheimer, Strasbourg, France.—p. 385.

Etiology of Constipation.—The proposition discussed by Maher concerns a new theory of mucus density in its relation to the movement of the residual mass in the distal colon. He speaks of an anetic condition which is developed when the excessive density of the mucous protective film allays the irritation of the irritant fecal mass and thus inhibits its influence on the irritable mucous cells; so that it would appear as if the cells' irritability were diminished by the calming influence of the protective film, and the enteromotor relaxed. The term anetic is defined as "allaying pain; soothing." The immediate cause of constipation is ostensibly a profound grade of the anetic condition. All causes of exhaustion and congestion from a local factor, or derived from the liver or elsewhere, lead to the same unstable condition, in which a dryness obtains in contradistinction to the condition of mucorrhea in diarrhea. Anything which gives rise to a sudden secretion of thin, watery mucus may so diminish the cell's protection that the irritant mass becomes a sufficient stimulus to provoke the urge to defecate. To effect this purpose there is a natural means. After breakfast in the morning soon after rising, when the gravity effect and that of the ingestion of food into the stomach have raised the instability of the anetic condition to a very high degree, with the consequently heightened irritability as in the natural production of the urge, the exertion of timely pressure on the walls of the rectum through the postanal space may be all that is needful to arouse the urge to defecate. This pressure seems availing only when the voluntary abdominal force is in effect, pressing the bowel against the pelvic floor, so that it becomes subject to two opposing forces. The postanal pressure should be intermittent and rolling from the coccyx toward the anus. It appears to arouse the primordial stimulus by friction of the opposed walls, or through a mass between them, and thus adds to the heightened reflex effect already present. Used awkwardly or at the wrong time, it may give rise to a disagreeable yet innocuous tenesmus, or even pain in the hypogastrium. Sometimes the anetic condition is so profound that many repetitions of the performance may fail, and then liver stimulation is indicated.

New England Journal of Medicine, Boston

198: 273-324 (March 29) 1928

*Evaluation of Present Methods of Treatment of Lesions of Stomach and Duodenum. D. C. Balfour, Rochester, Minn.—p. 273.
*Femoral Embolectomy. R. L. Mason and L. M. Hurxthal, Boston.—p. 277.
Aortic Aneurysm Rupturing into Pulmonary Artery: Case. C. Korb and D. Ayman, Boston.—p. 280.
Dermoid Cysts Above and Below Diaphragm of Mouth. J. V. Meigs, Boston.—p. 282.
Goiter in General Practice. F. J. Lawliss, Richford, Vt.—p. 286.
Classification, Prognosis and Control of Patients with Heart Disorders in Pregnancy. B. E. Hamilton, Boston.—p. 292.

Partial Gastrectomy in Lesions of Stomach.—Balfour asserts that partial gastrectomy affords the only possible cure for gastric carcinoma. It is one of the most favored types of operation for chronic gastric ulcer, and it is also indicated in recurring ulcers following operations. As a primary procedure for chronic duodenal ulcer, Balfour says the operation is unwarranted and will never become an operation of choice. The chief indications for partial gastrectomy in cases of gastric ulcer are large size, deep crater, and extensive induration about the ulcer. The possibility of such lesions being malignant necessitates a clean-cut removal of the lesion when possible and, although this can be done by local excision with knife or cautery, partial gastrectomy when the lesion is favorably situated involves little more risk and the results are excellent. It is unnecessary in such cases to remove a large part of the stomach, since this operation produces such a profound effect on the secretory function of the stomach as to be incompatible with good health. Partial gastrectomy is also indicated when other operations have failed to cure a chronic peptic ulcer. It is often preferable for gastrojejunal ulcer and for recurring ulcer in any situation after a well accepted type of operation has failed to cure or to control symptoms. Fortunately in such cases the risk of partial gastrectomy is not so great as to militate against its success as a secondary operation. The attempt to establish partial gastrectomy as an operation for primary duodenal ulcer is a trend in the wrong direction.

Treatment of Femoral Embolectomy.—Mason and Hurxthal have had five cases of femoral occlusion. One case was bilateral. In one patient, just after the occurrence of the embolus, the affected leg was vigorously massaged by a wardmate and the embolus apparently dislodged, since pulsation was reestablished after this maneuver. After some weeks, during which gangrene threatened at intervals, recovery took place. In the next three cases, in which operation was performed, subsequent emboli caused death before time enough had elapsed to show whether the affected leg could be saved. In the last case operation was not done until twenty-eight hours had elapsed following the occurrence of the embolus. Although pulsation could be felt in the popliteal artery after removal of the embolus, gangrene occurred and amputation became necessary. Examination of the amputated leg showed numerous areas of thrombosis below the site of obstruction, due, undoubtedly, to the long delay in operative intervention.

Physical Therapeutics, Baltimore

46: 95-158 (March) 1928

General and Local Heat Developed in Living Animal Body by Passage of High Frequency Currents. C. A. L. Binger, New York.—p. 95.
Some Physiologic Effects of Mechanical Vibration. M. L. H. A. Snow, New York.—p. 113.
Menace of Commercialized Exercise. C. W. Crampton, New York.—p. 124.
Some Effects of Light and Carbon Dioxide on Growth and Flowering of Plants: Report of Some Recent Work Done at Boyce Thompson Institute for Plant Research, Inc. J. M. Arthur and J. D. Guthrie, Yonkers, N. Y.—p. 130.
Necessity for Comprehensive Physical Therapy Law and Its Relation to Licensed Physical Therapy Technicians. S. D. Hubbard, New York. —p. 136.

Public Health Reports, Washington, D. C.

43: 657-736 (March 23) 1928

*Experimental Blacktongue: Yeast a Preventive. J. Goldberger et al., Washington, D. C.—p. 657.

Experimental Blacktongue: Prevention by Yeast.—The blacktongue-producing potency of a basic experimental diet and of three modifications was tested by Goldberger et al. thirty-three times in thirty-one dogs with the production of thirty-three separate attacks of blacktongue. Only one of these attacks developed at the end of a period longer than sixty-one days. Experimental blacktongue is due to a dietary deficiency which is capable of being corrected by something contained in yeast. This something, or blacktongue preventive, in yeast is inactivated or destroyed by heat sufficient to char the yeast; it retains its preventive potency in large measure, if not entirely, after heating in the steam autoclave at a pressure of 15 pounds for seven and one-half hours, and it is absorbed from an acidulated aqueous extract of either dried yeast or yeast first autoclaved at a pressure of 15 pounds for two and one-half hours by English fullers' earth. It cannot be identified with any of the older well recognized dietary essentials, but is believed to be identical with the thermostable substance of Smith and Hendrick. The blacktongue preventive and the pellagra preventive are both

present in yeast. Taken in conjunction with certain other evidence pointing to the fundamental identity of blacktongue and pellagra, this association strengthens the probability that the blacktongue preventive and the pellagra preventive, or vitamin P-P, are identical.

43: 737-805 (March 30) 1928

*Problem of Automobile Exhaust Gas in Streets and Repair Shops of Large Cities. J. J. Bloomfield and H. S. Isbell, Washington, D. C. —p. 750.

Dangers of Automobile Exhaust Gas.—A survey was undertaken by Bloomfield and Isbell to ascertain whether or not a health hazard from carbon monoxide existed in the streets of large cities, inside of autobusses, and in repair shops. Fourteen of the largest cities in the country were visited, having a combined population of more than 19,000,000, and 250 samples of air were obtained for carbon monoxide analysis. The average of 141 tests made in city streets at peak hours of traffic showed a contamination of 0.8 part of carbon monoxide in 10,000 parts of air. Only 24 per cent of all the street samples had more than 1 part of carbon monoxide in 10,000 of air, and in only one location, a covered passageway, was there as much as 2 parts per 10,000. Samples taken inside of autobusses yielded even lower concentrations of carbon monoxide gas. The figures for street air, when viewed in the light of present-day standards of exposure to carbon monoxide, do not reveal the existence of a health hazard from this source in city streets. The only individual who may possibly be exposed to a health hazard from inhaling street air containing automobile exhaust gas is the traffic officer. This potential hazard may be minimized by diminishing the duration of exposure at the most congested traffic stations. In the 102 tests made in twenty-seven garages in the fourteen cities visited, the average carbon monoxide content was found to be 2.1 parts in 10,000. More than half the samples (59 per cent) contained more than 1 part of carbon monoxide, and 18 per cent of all the samples contained more than 4 parts of this gas in 10,000 parts of air. These results for repair shops show a dangerous condition that demands the serious consideration of those concerned. This hazard in repair shops may be reduced to a minimum by not allowing the motors of automobiles to run longer than thirty seconds unless the car is in necessary motion or the exhaust is connected to the outside air by a direct airtight outlet of ample caliber. Without such outlet no automobile engine should be allowed to run indoors, except to reach its berth or to leave by the shortest route. All of these samples were taken in garages of considerable size. The great danger to life is unquestionably in the small private garage containing one or two cars. Under any circumstances, the discharge of an automobile exhaust into a roofed inclosure should be regarded as a hazardous act.

Surgery, Gynecology and Obstetrics, Chicago

46: 447-590 (April) 1928

Sarcomatous Tumors of Testis. H. Dew, Melbourne, Australia.—p. 447.
*Mechanism of Emptying of Gallbladder and Common Duct. G. H. Copher, St. Louis, and C. F. W. Illingworth, Edinburgh, Scotland. —p. 459.
*Gallbladder Function After Division of Common Duct and Transplantation of Proximal Segment: Repair at Site of Transplantation. B. N. Berg, New York.—p. 464.
Congenital Arteriovenous Communications: Nine Cases. J. de J. Pemberton and J. H. Saint, Rochester, Minn.—p. 470.
Infection of Distal Anterior Closed Space of Finger: Forty-Five Cases. L. Carp, New York.—p. 484.
*Action of Mercurochrome on Local Infections in Guinea-Pigs. J. E. Sanner and J. H. Hill, Baltimore.—p. 496.
Extra-Uterine Pregnancy: Lithopedion. J. C. Masson and H. E. Simon, Rochester, Minn.—p. 500.
Central Dislocation Fractures of Acetabulum: Fifteen Cases. E. L. Eliason and W. M. Wright, Philadelphia.—p. 509.
*Transverse Coniotomy for Relief of Certain Types of Cases of Laryngeal Obstruction. M. Backer, Bridgeport, Conn.—p. 518.
*Menstrual Fistulas of Postoperative and Endometrial Origin. M. Ballin, Detroit.—p. 525.
*Technic of Anterior Resection of Rectosigmoid. F. W. Rankin, Rochester, Minn.—p. 537.
Thyroidectomy. A. S. Jackson, Madison, Wis.—p. 547.
Derangements of Knee Joint: Rôle of Internal Alar Ligament in Tears of Internal Semilunar Cartilages. M. Bernstein, Chicago.—p. 554.
Tuberculoma of Trachea. P. P. Vinson and H. C. Habein, Rochester, Minn.—p. 562.
*Fascial Graft for Dislocation of Acromioclavicular Joint. S. Bunnell, San Francisco.—p. 563.
*Ligature of Angular Vein as Preventive Measure in Facial Carbuncle. H. Bailey, Birmingham, England.—p. 565.
Shorter Technic for Coffey Operation in Cancer of Rectum. D. Smith, San Francisco.—p. 568.
Drainage or Nondrainage After Thyroidectomy. F. H. Lahey, Boston. —p. 572.
Blood Vessel Clip Set for Intracranial Work. R. M. Klemme, St. Louis. —p. 575.
Overhead Frame for Plaster Body—Spica Cases. H. E. Conwell, Fairfield, Ala.—p. 576.

Mechanism of Emptying of Gallbladder.—The results of experiments made by Copher and Illingworth indicate that the emptying mechanism of the gallbladder is dependent partly on an intrinsic muscular action, partly on its elasticity, and partly on the ebb and flow of fresh bile from the liver. Variations of intra-abdominal pressure play a minor rôle in the emptying of the gallbladder. Peristaltic contractions of the common duct have been observed in pigeons, and it is suggested that they may take part in the flow of bile in some mammalia. The response of the gallbladder to a fat meal depends on its absorption through the intestinal wall. It is not proved whether the response of the gallbladder is due to hormone action or to nervous excitation. Sodium iodide is absorbed by the gallbladder wall.

Effect of Surgical Intervention on Gallbladder Function.—After complete division of the common duct and transplantation of the proximal segment, relatively normal cholecystograms were obtained by Berg in dogs. A specialized neuromuscular relationship between the gallbladder and the sphincter of Oddi was excluded.

Action of Mercurochrome on Local Infections.—Guinea-pigs with abscesses have been treated by Sanner and Hill with mercurochrome locally, intraperitoneally and intravenously. The animals treated locally, as compared with untreated controls, showed a prompt and rapid drop in the wound counts with healing before the controls. The animals treated intraperitoneally also showed a rapid drop in the counts and more rapid healing than those treated locally. The intravenous injection of 5 mg. per kilogram body weight also caused a prompt and rapid drop in the count, in some cases more rapid than in the animals treated locally.

Transverse Coniotomy in Laryngeal Obstruction.—Backer reports a case of laryngeal obstruction in the adult which was relieved by the transverse coniotomy of Vicq d'Azyr. The procedure is simple and should be used in such emergencies as must be met without the assistance of a surgeon. It is not applicable in children, because of the small size of the membrane or in obstruction which may lie below the thyroid cartilage, as in diphtheria. The operation is of particular value in the establishment of a temporary artificial airway in operations at the base of the tongue, about the pharynx, and in the buccal cavity.

Menstrual Fistula.—Menstrual fistula is proposed by Ballin as a term for fistulas in laparotomy scars characterized by periodic discharge of blood, more or less coincident with normal menstruation. He reports two cases of direct menstrual fistula which followed operations for salpingitis and ventrifixation; five cases of endometriosis, three in abdominal scars, and two in the rectovaginal septum in which there were menstrual or near menstrual symptoms from the endometrical tumors, and two cases of rectovaginal enclosures.

Anterior Resection of Rectosigmoid.—Rankin describes a technic which he has employed with satisfactory results in twenty-six anterior resections of the rectosigmoid and upper rectum. There was only one death.

Operation for Dislocation of Acromioclavicular Joint.—Bunnell passes a strip of fascia lata through three drill holes. The first hole penetrates the tip of the acromion slightly in front of the center of the joint; the second penetrates the outer end of the clavicle slightly behind the center of the joint, and the third penetrates the clavicle at the outer end of the trapezoid ligament. The piece of number 3 chromic catgut is passed through holes 1 and 2, and tied tightly in order to hold the joint together and to prevent strain on the fascial graft until the latter has grown to

itself and to the bone. The one strip of strong fascia reproduces anatomically the conoid and trapezoid ligaments, as the two fascial strips correspond to the two borders of these ligaments. It also reconstructs the superior and inferior ligaments of the acromioclavicular joint and reenforces the superior ligament with an extra plication. The fascial plications fuse to each other and grow to the bones by intimate bony contact.

Ligature of Angular Vein in Cases of Facial Carbuncle.—In a series of fifteen consecutive cases of thrombophlebitis of the cavernous sinus, Bailey found that four were due to a furuncle or carbuncle of the upper lip, and that three more originated in an infected gnat bite of the nose. It is therefore reasonable to assume that the angular vein, forming, as it does, a communicating link between the venous radicles of the upper lip and the ophthalmic plexus, constitutes a main channel by which infection passes into the venous system. Bailey reports three cases in which he ligated this vein to forestall spread of the infection.

Tennessee State M. Association Journal, Nashville

20: 381-422 (March) 1928

Mercurochrome and Gentian Violet in Treatment of Septicemia. C. N. Cowden, Nashville.—p. 381.
Uterine Injuries Accompanying Childbirth. J. P. Baird, Dyersburg.—p. 386.
Early Diagnosis of Renal Tuberculosis. R. A. Hennessey, Memphis.—p. 392.
Chronic Paranasal Sinus Disease. F. E. Hasty, Nashville.—p. 395.
Fractures of Elbow. D. Eve, Jr., Nashville.—p. 398.
Brain Abscess of Otitic Origin. W. W. Potter, Knoxville.—p. 401.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Brain, London

51: 1-146 (March) 1928

Upward Movement of Eyes. E. Bramwell.—p. 1.
Pain Sensations Which Accompany Deep Punctures. H. C. Bazett and and B. McGlone.—p. 18.
*Encephalitis Periaxialis Diffusa. C. P. Symonds.—p. 24.
*Pathology of Hemichorea. A. Weil.—p. 36.
*Trigeminal Neuralgic Pain Associated with Multiple Sclerosis. H. L. Parker.—p. 46.
Narcolepsies. S. A. K. Wilson.—p. 63.

Encephalitis Periaxialis Diffusa.—Evidence is presented by Symonds which suggests that Schilder's encephalitis periaxialis diffusa may have a familial incidence. Of twelve brothers and sisters, one died in infancy from unknown causes; one died in adult life from pulmonary tuberculosis; three are alive and well; five died in infancy or childhood from causes notified as "meningitis" or "convulsions" without further evidence of the clinical or pathologic state. The other two, a girl, aged 20, and a boy, aged 11, present symptoms of cerebral disease which are described.

Pathology of Hemichorea.—In the case of right hemichorea reported by Weil, a cyst formation in the oral part of the left striate body was combined with hemiatrophy of the whole left striatum, the left globus pallidus and the left body of Luys. The historical picture showed increase in glial nuclei and poverty in myelinated fibers in the atrophic nuclei. There was also found sclerosis of ganglion cells in the lateral nucleus of the left thalamus.

Trigeminal Neuralgia Associated with Multiple Sclerosis.—Four cases of well advanced multiple sclerosis and persistent paroxysmal trigeminal neuralgic pain were studied by Parker. One patient died, and at the necropsy the diagnosis of multiple sclerosis and the distribution of the disease were established. Plaques were found on the entrance zone of the posterior root in the pons on the side affected by pain. Smaller plaques were found on the spinal trigeminal root of the opposite side in the lower part of the medulla and upper part of the cervical spinal cord. The main sensory nucleus on the opposite side was also affected, but no apparent symptoms were produced. Both gasserian ganglions were free from sclerotic processes. These cases illustrate especially that patients suffering from multiple sclerosis may experience trigeminal neuralgic pain. While this symptom is comparatively rare in the disease, when present it may dominate the subjective clinical picture, and may appear early. The pain may resemble closely the type complained of in cases of major trigeminal neuralgia, and it is relieved by the same surgical procedures—section of the posterior root and alcohol injection.

British J. Children's Diseases, London

25: 1-82 (Jan.-March) 1928

*Angina Pectoris in Children. E. J. Stolkind.—p. 1.
*Subacute Infective Endocarditis in Childhood. B. Schlesinger.—p. 33.
Achalasia (Cardiospasm) of Cardia in Child of Seven Years. W. G. Sears.—p. 48.
Wood's Glass and Detection of Ringworm by Its Fluorescent Properties. N. G. Hill.—p. 54.

Angina Pectoris in Children.—Stolkind reports four cases and analyzes twenty-five cases already on record. His patients were aged 13, 9, 10 and 14 years, respectively. One, a child suffering from aortic and mitral regurgitation, had angina pectoris. This patient died. A second patient had a functional angina pectoris which lasted for about five years. In the third patient, a very nervous child, the seizures ceased after treatment of the nervous system. The fourth patient had only one attack, which came on after cycling fast for about 50 miles. On examination the heart was found to be normal.

Subacute Infective Endocarditis in Children.—Among fourteen fatal cases analyzed by Schlesinger, acute or subacute rheumatism had occurred some years previously in only six. A congenital malformation of the heart was present in two, while the remaining six, hitherto healthy, developed the disease insidiously with joint pains, dyspnea and anorexia, suggesting at first a simple rheumatic endocarditis. The extreme rarity of subacute infective endocarditis in children is a striking feature of the disease. During the last sixty-five years at the Hospital for Sick Children, Great Ormond Street, only ten true examples of the fatal disease were found at autopsy, as compared with 349 undoubted cases of rheumatic carditis with endocarditis noted at autopsy over the same period. The signs that are characteristic of subacute infective endocarditis in children are prolonged, high, irregular pyrexia and embolic manifestations, both of which are rare in rheumatism. The pathology of splenic enlargement differs in the two diseases. Enlargement in rheumatism is caused either by a severe primary infection or by secondary infection. Splenic infarction, although rare in rheumatism, is invariably present in subacute infective endocarditis. Acute pericarditis, so common in rheumatism, is the exception in subacute infective endocarditis, although signs of old pericardial inflammation are often present. From these investigations it would appear that the pathogenesis of subacute infective endocarditis and of rheumatism is not identical, for if subacute infective endocarditis were a malignant form of rheumatism, one would expect it to be at least as common in children as it is in adults, since children are particularly susceptible to all forms of rheumatism. Similarly, if the two diseases are to be regarded as etiologically the same, it is difficult to explain why the pericardium should continually remain unaffected in subacute infective endocarditis when it is so often the seat of repeated inflammation in rheumatism.

British J. Experimental Pathology, London

9: 49-106 (April) 1928

Modification of Scarlatinal Toxin by Formaldehyde. J. Smith.—p. 49.
Method of Staining Bacterial Flagella. J. Craigie.—p. 55.
*Pancreatic Fat Necrosis. F. K. Herbert.—p. 57.
*Relation Between Fatness and Sterility. A. S. Parkes and J. C. Drummond.—p. 63.
*Incidence of B. Tetani in Human Feces. J. C. Kerrin.—p. 69.
*Blood Phosphorus in Health and Disease: III. F. B. Byrom and H. D. Kay.—p. 72.
I. Accurate Measurement of Proportion of Corpuscles and Serum in Blood. II. Volume of Red Blood Corpuscles in Venous and Oxygenated Blood and After Exposure to Various Saturations of Carbon Dioxide. F. H. Smirk.—p. 81.
Structure of V. Cholerae, with Reference to Its Immunizing Properties. R. W. Fairbrother.—p. 89.
Suitability of Guinea-Pig for Experimental Work with Vaccinia Virus. J. O. W. Bland.—p. 97.
Experiments on Virus of Fowl Plague (II). C. Todd.—p. 101.

Fat Necrosis of Pancreas.—Histochemical observations are described by Herbert which confirm the accepted opinion that soap is formed in the necrotic areas in pancreatic fat necrosis. Possibly neutral fat, fatty acid and soaps are all present in crystalline form. There is certainly more than one type of crystal, but histochemical identification is unsatisfactory. By chemical analysis it has been shown that hydrolysis and saponification of the fat do occur in pancreatic fat necrosis, but the hydrolysis is mainly an acid hydrolysis, and very little soap is formed. There is a marked rise in the calcium content of the omental tissue when the fat necrosis is extensive, but only a minute portion of this calcium exists as soap.

Relation Between Fatness and Sterility.—Experiments made by Parkes and Drummond on rats showed that an excessive degree of fatness does not necessarily lead to sterility, and that fatness is more often a result than a cause of sterility.

Incidence of Tetanus Bacilli in Human Feces.—Two hundred and four stools were examined by Kerrin for tetanus bacilli with negative results.

Blood Phosphorus in Health and Disease.—Byrom and Kay assert that in malignant disease unaccompanied by anemia there is no significant change, as compared with nonanemic noncancerous controls, in the amount of any of the following kinds of phosphorus compounds in the blood: free phosphate, phosphoric esters hydrolyzed by phosphatases, phosphoric esters not hydrolyzed by phosphatases, lipin phosphorus, total phosphorus. In malignant disease accompanied by anemia, the changes which occur in these blood constituents are entirely explicable on the basis of the anemia, and are in no way specific for cancer. The determination of the phosphorus quotient as described by Gröbly is of no diagnostic value in this disease. In severe obstructive jaundice, such as that accompanying carcinoma of the pancreas, the lipin phosphorus of the blood is markedly increased. In polycythemia and simple secondary anemia, as in the anemia of carcinoma, the changes from the normal in the blood phosphorus distribution are the result merely of a change in the relative proportion of the red cells to plasma. This is not the case in the anemia of advanced chronic nephritis or in pernicious anemia; in both these diseases the qualitative and quantitative composition of the cell with regard to phosphorus compounds appears to be changed. Leukocytes are relatively rich in phosphorus compounds, a given volume of leukocytes containing from two to three times the quality of phosphorus as the same volume of red cells. In leukemia, therefore, phosphorus determinations on the whole blood vary with the severity of the anemia and the leukocytosis in an irregular manner.

British Journal of Radiology, London

1: 75-110 (March) 1928

Importance of Roentgenograms in Diagnosis of Renal and Ureteral Calculi. S. A. Heyerdahl.—p. 75.
Roentgen-Ray Treatment of Primary Carcinoma of Lung. R. Paterson.—p. 90.
*Death Coincident with Oral Administration of Sodium Tetraiodophenolphthalein. G. E. Dyas, J. H. Sheldon and S. C. Dyke.—p. 97.

Death Coincident with Oral Administration of Sodium Tetraiodophenolphthalein.—In the case reported by Dyas et al. the usual aperient was given forty-eight hours previous to administration of the drug. A "fat" meal was taken at 6 p. m., and between 9 and 10 p. m. 4.5 Gm. of sodium tetraiodophenolphthalein, in stearin-coated capsules, was given, with frequent drafts of water. Roentgenograms were taken at 9 a. m. the following day, the patient lying prone on the Potter-Bucky diaphragm. No compression was applied, and the patient was apparently well when he left the roentgen-ray department. Roentgenograms did not show any gallbladder shadow, and no tetra salt was seen in the colon, indicating complete absorption of the drug. Soon afterward he collapsed suddenly and died in spite of every effort made to save him. At the necropsy a tear of the liver capsule was found, at the most dependent portion of the right lobe. The right lobe showed a condition of advanced disorganization. Other abdominal organs were normal. The histologic evidence suggests that the sequence of events in this case immediately preceding death was, in the first place, an acute degeneration of the hepatic cells followed by rupture of the sinuses as a result of the removal of the normal support afforded by these cells. The tear in the capsule presumably occurred as a result of the increased pressure within the liver brought about by the hemorrhage from the sinuses. The acute hepatic degeneration was confined to one portion of the right lobe only, but the whole of the organ had been the seat of an advanced portal cirrhosis. That the portal cirrhosis played some part in the onset of the acute degenerative process was obvious. The relation of the ingestion of the tetra salt to the onset of the acute hepatic degeneration is a matter concerning which only conjecture is possible.

British Medical Journal, London

1: 583-618 (April 7) 1928

*Hemorrhagic Diathesis. H. L. Tidy.—p. 583.
*Thrombophlebitis Migrans. T. G. Moorhead and L. Abrahamson.—p. 586.
History of Outbreak of Typhoid in Pretoria. A. Pijper and B. D. Pullinger.—p. 587.
Rôle of Dead and Infected Teeth in Autogenous Infections. A. P. Bertwistle.—p. 589.
Fracture of Os Navicularis. K. P. Brown.—p. 591.
*Two Cases of Acute Yellow Atrophy of Liver Following Administration of Atophan. L. J. A. Loewenthal, W. A. Mackay and E. C. Lowe.—p. 592.
Gas Gangrene of Sigmoid. R. S. Woods.—p. 593.
Treatment of Varicose Veins by Injections. T. H. T. Barber.—p. 594.
Laryngeal Myxedema. J. Adam.—p. 594.

Hemorrhagic Diathesis; Angiostaxis.—Tidy suggests the term "angiostaxis" for hemorrhagic diathesis, as increased permeability or defect of the capillary endothelium is the essential cause of the hemorrhages. Alterations in the number of platelets are secondary to the capillary hemorrhages.

Thrombophlebitis Migrans.—Moorhead and Abrahamson report four cases of phlebitis of extensive distribution and migratory character, showing involvement of the peripheral and visceral veins, prolonged course, and relative benignity. The main feature of these cases is the tendency to metastatic extension, often at long intervals. The trouble commences in a segment of a peripheral vein, which becomes painful and tender. Redness and swelling ensue, and there is slight or moderate pyrexia. Soon the symptoms begin to subside, only to reappear in some portion of the same vein or of a distant vein. All four limbs may be involved, and with each recurrence of phlebitis there is a recurrence of pyrexia. In association with the tendency to extension is implication of the visceral veins. In two cases symptoms of mesenteric thrombosis were encountered, and in one patient symptoms occurred which suggested involvement of a coronary vein. The etiology of the condition is obscure, though the local signs of inflammation and the method of spread suggest forcibly the presence of a blood infection.

Cinchophen Poisoning.—Poisoning by cinchophen and its congeners is a condition which should always be borne in mind. There may not be any premonitory symptoms, although urticaria, albuminuria, gastro-intestinal disturbances, and transient jaundice have been noted. Acute yellow atrophy ushers in the fatal termination. Loewenthal et al. suggest that the presence of albuminuria or of any evidence of nephritis should be considered as a contraindication to the administration of this drug. The slightest sign of intolerance, such as nausea or loss of appetite, should be an indication for the immediate stoppage of the administration of the drug. The estimation of a van den Bergh reaction and the icteric index of the patient's serum will probably give the earliest evidence of any pathologic effect on the liver cells, and present the opportunity for omitting treatment long before any evidence of clinical jaundice could be observed. Even if administered in the correct intermittent manner, cinchophen or any of its congeners may be dangerous. The authors feel that its indiscriminate use is very undesirable.

Tubercle, London

9: 305-356 (April) 1928

Experimental Tuberculous Meningitis in Rabbits. J. R. Simpson and S. R. Gloyne.—p. 305.
Work and Aims of Tuberculosis Care Committees and Kindred Agencies. G. Jessel.—p. 310.
Id.: In Country Area. A. P. Ford.—p. 316.
Study of Tuberculosis in Infants M. A. Asserson.—p. 323

Bulletins et Mém. de la Soc. Méd. des Hôpitaux, Paris

52: 435-463 (March 15) 1928

Inflammatory Edema and Cellulitis in Young Subjects. J. Comby.—p. 435.
Febrile Reactions Following Neoarsphenamine Injections. Milian.—p. 437.
Atrophy of Thumb Muscles in Individual with Cervical Ribs. E. Rist and F. Hirschberg.—p. 440.
Purulent Pleurisy Becoming Chronic and Recognized Late as Tuberculous. M. Renaud and Juge.—p. 442.
*Death During Hemoptysis in Tuberculosis. M. Renaud and Miget.—p. 445.
Anterior Poliomyelitis Following Antityphoid Vaccination. Alajouanine, Fribourg-Blanc and Gauthier.—p. 446.
Precordial Pain Occurring Early in Epidemic Encephalitis. J. C. Mussio Fournier, A. Garra, F. Rocca and J. Monestier.—p. 450.
Treatment of Pulmonary Amebiasis. Vialard and Paponnet.—p. 452.
Case of Pure Agranulocytosis. C. Aubertin and Robert-Lévy.—p. 456.

Death During Hemoptysis in Tuberculosis.—Renaud and Miget report a case of sudden death during hemoptysis in tuberculosis. From the autopsy findings they are convinced that death in such cases is due neither to the hemorrhage itself nor to mechanical asphyxia. The true mechanism involved in this common occurrence still remains very obscure and one cannot say whether the hemoptysis is the cause of death or whether it is merely an epiphenomenon.

Bulletins et Mém. de la Soc. Nat. de Chir., Paris

54: 327-361 (March 10) 1928

Late Results of Pyelo-Ureteroplasty. H. Hartmann.—p. 328.
Large Tumor of Superior Maxilla. H. Rouvillois.—p. 329.
*Radium Treatment of Actinomycosis. R. Proust.—p. 335.
Fracture of Humerus Caused by Throwing Grenade. M. L'Henreux and E. Bressot.—p. 339.
Giant-Cell Tumor of Patella: Two Cases. J. Abadie.—p. 341.
Functional Tests of Liver During Anesthesia and Surgical Operations. N. Fiessinger and H. Walter.—p. 346.
Suppurative Dermoid Cyst of Ovary Containing Typhoid Bacilli. J. Abadie.—p. 356.

Radium Treatment of Actinomycosis.—In each of two cases of actinomycosis of long duration, which had never been treated with potassium iodide, Cornioley and Fischer gave two intravenous injections of irradiated serum (15 to 17 millicuries) at intervals of one and three weeks, respectively. The actinomycotic lesions healed rapidly. The authors state, however, that more cases will have to be studied before any definite conclusions can be drawn.

Lyon Chirurgical, Lyons

25: 1-128 (Jan.-Feb.) 1928

*Leriche's Operation for Traumatic Peripheral Facial Paralysis as Compared with Others. J. Jianu and G. Buzoianu.—p. 10.
Ligation of Inferior Vena Cava for Injury in Course of Nephrectomy. M. Patel and R. Peycelon.—p. 22.
*Experimental Study on Innervation of Lungs. R. Fontaine and L. Herrmann.—p. 29.
Two Cases of Gonorrheal and Tuberculous Arthritis. A. Epstein.—p. 57.

Leriche's Operation for Traumatic Peripheral Facial Paralysis as Compared with Other Operative Procedures.—In three cases of traumatic peripheral facial nerve paralysis the authors used a method proposed by Leriche, namely, the removal of the superior cervical ganglion. In two of the cases the paralysis was the result of removal of the parotid gland for malignancy, in the third it was caused by injury to the facial nerve, the result of a fracture of the base of the skull. Both immediate and late results were satisfactory. The patients have regained voluntary closure of the palpebral fissure. In an operation for a malignant parotid tumor, the authors performed a provisional removal of the superior sympathetic ganglion. The patient did not develop ptosis of the lid or an epiphora. He was able to close his eye as well as he did before the operation. This latero-cervical method of ablation of the superior sympathetic ganglion is much safer than the method of paracarotid sympathectomy. All three patients are able to close the lids and to wrinkle the forehead. The complete paralysis of the movement of the lips in whistling has partially disappeared, denoting a partial return of the voluntary action of the buccinator muscle and of the orbicularis oris muscle. The theoretical explanation of the effect of sympathectomy is rather difficult. It may be referred to enophthalmia, which regularly takes place after section of the superior cervical ganglion because of paralysis of the ciliary muscle. Nerve anastomoses with the spinal accessory, the glossopharyngeal and the hypoglossal are technically difficult and not always successful.

Experimental Study on Innervation of the Lungs.—Fontaine and Hermann present a review of the anatomy and histology of the pulmonary nerves in a dog and a method for denervation of the lungs. The method consists of intrathoracic removal of the entire superior portion of the thoracic sympathetic chain, including the stellate ganglion and Vieussens' ansa, as well as resection of the vagosympathetic trunk of the middle cervical ganglion. Because of abundant nerve anastomoses with the opposite side, complete denervation of the lung is not accomplished. Unilateral section of the extrinsic pulmonary nerves did not influence the respiratory rhythm. The alkaline reserve remained unchanged. No macroscopic or microscopic changes were noted. The impossibility of completely denervating the lung explains the failures in the operative treatment of asthma. A typical massive collapse occurred in one dog. It was not due to mechanical cause; no obstruction of the bronchi was found. Resection of the extrinsic nerves did not in this instance prevent the occurrence of a reflex atelectasis.

Marseille-Médical, Marseilles

65: 197-242 (Feb. 15) 1928

Critical Study of Results of Reflexotherapy. J. Piéri.—p. 197.
*Malaria Treatment of Diseases of Nervous System. D. Paulian.—p. 216.

Malaria Treatment in Neurology.—Paulian at first used subcutaneous inoculations of blood from malarial patients, but the results were so delayed, three weeks elapsing sometimes before the appearance of the fever, that he soon adopted the intravenous method. With this method the fever of shock appears on the same day the inoculation is made. This fever lasts only a few hours and is followed by a period of apyrexia lasting about five days. The malarial fever then makes its appearance and continues until stopped with quinine. The effect of fever, thus produced, on 193 cases of syphilis of the nervous system, together with its effect on some cases of nonsyphilitic nervous diseases was studied. The following results were noted: (1) in multiple sclerosis, results practically negative, or a very slight amelioration; (2) in Parkinsonism and in the sequelae of epidemic encephalitis, an early slight amelioration or none at all; (3) in Parkinson's disease, no improvement; (4) in manic-depressive states, the malaria therapy only accelerated the progress of the disease and caused an earlier appearance of the remission; (5) in dementia praecox, remission of short duration, condition stationary; (6) in syphilitic paraplegias, marked improvement; (7) in paranoiac conditions, no improvement.

Nourrisson, Paris

16: 65-128 (March) 1928

Hydrocephalus. A. B. Marfan.—p. 65.
*Urinary Phenols in New-Born Infants. R. Debré, R. Goiffon, Crama, M. Zavergiu-Theodoru.—p. 79.
Relations Between Congenital Craniotabes and Rickets. I. M. Arluk.—p. 90.
Sedimentation of Erythrocytes in Congenital Syphilis. S. Weiss.—p. 102.

Urinary Phenols in New-Born Infants.—Debré et al. first proved that the quantity of urinary phenols in new-born infants is a good index of intestinal putrefaction. The technic of the colorimetric method for determining the amount of urinary phenols is given. According to their findings, the urinary elimination of phenols is remarkably constant in healthy new-born infants, namely 0.08 Gm. per liter, and the figure remains constant regardless of the type of milk given. Whenever a digestive disturbance manifests itself, however, the urinary phenols increase in amount and this augmentation is an index of the gravity of the digestive disturbance. In infants who died from severe digestive disturbances the phenoluria figure varied between 0.54 and 0.61 Gm. per liter. In infants recovering from an intestinal disturbance, the phenoluria figure remains higher than normal, doubtless indicating a persistence of abnormal putrefaction. One weak point in urinary phenol content determinations is that they are subject to diuretic variations. To correct this source of error one can, in an infant on a milk diet, estimate the daily diuresis by the quantity of urinary urea and it is then better to substitute for the simple figure of the phenols the phenol-urea ratio. This ratio is constant

in the healthy infant, regardless of the milk diet, and is approximately 1.3. In infants with digestive disturbances the figure increases. It reaches 3.5 on an average in grave cases and remains above the normal in convalescence.

Presse Médicale, Paris

36: 305-320 (March 10) 1928

*Action of Hypertonic and Hypotonic Solutions on Normal and Pathologic Pressure of Cerebrospinal Fluid. H. Claude, A. Lamache, J. Cuel and J. Dubar.—p. 305.
The Opposite Lung During Artificial Pneumothorax. A. Jacquelin.—p. 309.

Action of Hypertonic and Hypotonic Solutions on Pressure of Cerebrospinal Fluid.—Claude et al. made sixty-eight measurements of the pressure of the cerebrospinal fluid in fifty-four subjects; fifty were made following the intravenous, oral and rectal administrations of concentrated solutions and eighteen following the injection of distilled water. The technic of making the injections is given in detail. Forty cases in which the pressure of the cerebrospinal fluid was normal, above normal, and below normal are reported. The authors found that the pressure of the cerebrospinal fluid was not always modified by the injections, and, when it was, the change was frequently slight and transient; following the dextrose injections a secondary hypertension was sometimes noted. To obtain marked and lasting variations, massive and repeated doses must be used; the indications for the method are therefore limited. Distilled water intravenously is to be recommended in all cases of acute hypotension following either cranial trauma or lumbar puncture; the concentrated solutions can be tried in the treatment of certain persistent headaches and in spinal puncture accidents due to hypertension, in which cases oral administration is recommended. In the course of the symptomatic intracranial hypertension due to cerebral tumor, it is especially at the moment of intervention that the hypertonic injection can be of value in producing a transient diminution in the tension of the dura; in serous meningitis, lumbar puncture decompression seems preferable. In fact, the injections of concentrated solutions are not to supplant lumbar puncture, which is still the treatment of choice, particularly in cases of posttraumatic hypertension.

Revue de Chirurgie, Paris

65: 697-790, 1927

*Operative Treatment of Recent Compound Fractures and Dislocations of Extremities. H. Godard.—p. 697.
*Arterial Obliteration in Extremities, Juvenile Arteritis. H. Oberthur.—p. 746.
Decortication of Hydatid Cysts. F. Dévé.—p. 787.

Operative Treatment of Recent Compound Fractures and Dislocations of Extremities.—Godard reports cases of compound fracture of bones and joints that were operated on in the first few hours after the injury. Primary suture without drainage was practiced. In his opinion all attempts at chemical disinfection at the sight of fracture are futile and do harm. Serous effusions from joints were found to be sterile twenty-four to sixty hours after the injury. In his opinion, the degree of thoroughness with which the débridement is carried out is of greater importance than the presence of a few organisms in the wound. Primary union was obtained in cases in which *Bacillus perfringens* and anaerobes were found in the wound. Delayed and unsatisfactory union occurred in cases in which the fragments were sutured as well as in those in which prosthetic appliances were used. He warns that this complication is not infrequently due to syphilis. In fifty-three cases of compound joint fracture, there were two deaths and three secondary amputations. The use of prosthetic appliances, such as Parham's bands, did not seem to add to the gravity in these cases. The advantages derived from their use in severe cases are very definite.

Juvenile Arteritis.—Oberthur challenges Buerger's conception of this disease. In three of the author's four cases, the first symptom observed was intermittent claudication. The "vertical ischemia" and the erythromelia of Buerger, with the limb in dependent position, are the result of arterial obstruction and will be found in cases of senile gangrene if looked for. The results of his histologic studies of four amputated extremities are likewise at variance with those of Buerger. The arterial lesions found were those of obliterating endarteritis, and were not explainable on the basis of a thrombus. The lesions in the veins were confined to the outer layers, muscle hypertrophy with connective tissue proliferation. Not a single thrombus was found. He finds no clinical, anatomic or bacteriologic proof of an infectious origin of the disease. The disease in its early stages frequently passes for rheumatism, sciatica and flat foot. At a later stage it must be differentiated from Raynaud's gangrene, from painless acrocyanosis and from Weir-Mitchell's erythromelalgia. Diabetes and syphilis should always be carefully searched for. No definite progress has been accomplished so far in the treatment of the disease. Hot air treatment as well as diathermy most frequently aggravate the existing gangrene and the pain. Oberthur considers Leriche's sympathectomy as positively injurious in these cases.

Revue Française de Gynécologie et d'Obst., Paris

23: 129-192 (March) 1928

Spontaneous Labor in Cases of Rachitic Pelvis. R. Riss, Brahic and J. Olmer.—p. 129.
*Painful Dysmenorrhea Caused by Intestinal Worms. G. Léo.—p. 142.
Clinical and Anatomic Study of Infected Chorionepithelioma of Uterus. A. Hamm and C. Oberling.—p. 159.

Dysmenorrhea and Intestinal Worms.—To nine reported previously, Léo adds eighteen cases of dysmenorrhea which he cured with vermifuges. *Oxyuris* was encountered ten times, *Ascaris* three times (once associated with *Oxyuris*), *Lamblias* twice (once with *Trichomonas*), *Trichomonas* twice (never alone), and *Trichocephalus* twice (once with *Trichomonas*). The worms cause dysmenorrhea in one of two ways: (1) by producing enteritis and enterocolitis, which disturb the menstrual function, (2) by giving off toxins which have a direct, harmful action on the organism.

Riforma Medica, Naples

44: 205-237 (Feb. 27) 1928

*Resistance of Tubercle Bacillus. V. M. Palmieri.—p. 205.
Influence of Sugar Injections on Digestive Apparatus. G. Cautiero.—p. 207.
Ulnar Nerve Phenomena. F. Pfanner.—p. 211.

Resistance of Tubercle Bacillus to Putrefaction.—In performing a necropsy on a patient who had died four months before from pulmonary tuberculosis, acid-alcohol-fast bacilli were recovered from the lung tissues. Bozzelli's stain served to identify the germs as tubercle bacilli. The finding was purely accidental.

Ars Medica, Barcelona

4: 1-40 (Jan.) 1928

*Value of Hill-Flack's Sign. J. Cuatrecasas and J. Berini.—p. 1.
Physiology of Spleen. G. Viale.—p. 10.
Value of Cholecystography. J. M. Soldevila.—p. 16.
Complications of Otitis Media. L. Vila-Abadal.—p. 26.
Treatment of Peptic Ulcer. N. Battestini.—p. 26.

Clinical Value of Hill-Flack's Sign.—In a large group of patients with heart disease, Hill-Flack's sign—increased blood pressure in the medial plantar artery—was found frankly positive in cases of syphilitic aortic regurgitation (most marked of all), rheumatic aortic regurgitation, syphilitic and sclerotic posterior aortitis, and nephritis with hypertension. The oscillometric method was invariably used. While the sign may rarely be elicited in functional disturbances, its presence usually suggests a sclerotic aortic condition.

Medicina Ibera, Madrid

1: 201-228 (Feb. 25) 1928

*Hyperthyroidism Caused by Pyelitis. E. Bonilla and J. Ferrero Velasco.—p. 201.
Hysteria. F. González Suárez.—p. 204.

Hyperthyroid Syndrome Caused by Calculous Pyelitis.—In a girl, aged 23, a typical hyperthyroid syndrome—goiter, tremor, tachycardia, loss of weight—followed pyelitis of calculous origin. The condition subsided completely after the pyelitis was cured. Previous antithyroid treatment had failed.

Prensa Médica Argentina, Buenos Aires

14: 909-940 (Feb. 10) 1928

Xanthomas in Congenital Syphilis. V. Bertola and R. Garzón.—p. 909.
*Basal Metabolism in Heart and Kidney Disease. M. R. Castex and M. Schteingart.—p. 921.
Insulin and Blood Gases. V. Deulofeu.—p. 924.

Basal Metabolism in Heart and Kidney Disease.—Among thirty patients with cardiac, renal or arterial disease, basal metabolism was found increased (+8 to +30), in eight, decreased (—10 to —21) in eight and normal in the remainder. The values usually rise in cases of hyposystole and asystole. The same occurred in two cases of Ayerza's disease. In opposition to Peabody's conclusion, a decrease was found in cases of nephritis both with and without edema. In such cases thyroid treatment acted favorably.

Repertorio de Medicina y Cirugía, Bogota

18: 487-542 (Aug.-Sept.) 1927

*Spinal Anesthesia. L. Leyva Pereira.—p. 489.

Spinal Anesthesia in Cases of General Peritonitis.—Three patients with general peritonitis due to intestinal perforation were operated on by Leyva. Two that underwent the operation under spinal anesthesia recovered. The other patient, on whom chloroform anesthesia was used, died from peritonitis after operation. One of the patients who survived had seven perforations of the intestine. The other had typhoid.

Revista de Biología e Hygiene, São Paulo

1: 1-128, 1927. Partial Index

Blood Coagulation. J. R. Pereira.—p. 5.
*Cholesteremia in Leprosy. J. M. Gomes, C. A. Pereira Leitão F.° and A. Wancolle.—p. 39.
Antidysenteric Vaccine. E. Vaz.—p. 65.

Blood Cholesterol in Leprosy.—The blood cholesterol values were determined in sixty-five lepers of all types. No relation was found between the clinical type and the quantity of blood cholesterol. The clinical seriousness of a case as a rule is inversely proportional to the cholesterol values. During febrile attacks and flare-ups, values decrease. Determination of the blood cholesterol may help in deciding whether antileprous treatment should be insisted on or subordinated to a general tonic treatment, including cholesterol.

Revista Médica Latino-Americana, Buenos Aires

13: 411-534 (Dec.) 1927

Diphtheria Prevention. G. Aráoz Alfaro.—p. 411.
Congenital Cerebrospinal Syphilis. A. Gareiso.—p. 429.
Urinary Retention. A. F. Ortiz and J. J. Gazzolo.—p. 436.
Vitamins. J. A. Collazo.—p. 452.
*Cancer of the Tongue. N. Capizzano.—p. 464.
Sugar in Fattening Treatments. C. Cardini.—p. 471.

Radium Therapy of Cancer of the Tongue.—In 143 cases of lingual carcinoma treated with radium, there were 19.94 per cent of three-year cures. Many of the patients were first seen with the whole tongue as well as the cervical glands already involved.

Revista Médica de Sevilla, Seville

45: 41-79 (Feb.) 1928

*Antichancroid Vaccination. Ruiz de la Riva.—p. 41.
Local Immunity in Ophthalmology. V. Cacace y León.—p. 46.
*Acriflavine in Biliary Sepsis. J. M. González Galván.—p. 59.
Treatment of Puerperal Eclampsia. A. Ricart Montes.—p. 67.

Antichancroid Vaccination.—De la Riva applies antichancroid vaccine by the vein or the muscle, and for diagnostic reaction he uses it in the skin. He expresses his opinion as follows: (1) Antichancroid vaccination has a precise and effective action against a process due to Ducrey's bacillus. (2) The efficacy is greater when the intravenous route is used. The violent reactions limit its application by this route to grave, stubborn cases or to those with special localization. (3) In all others the results are satisfactory with intramuscular injection. (4) The intradermal test is specific. He treated three cases by way of the vein, eleven intramuscularly and applied the vaccine as a skin test thirteen times.

Acriflavine in Biliary Sepsis.—This is, according to González Galván, the more logical procedure and also the more scientific and prudent. In all conditions of biliary sepsis with fever, besides classical drug treatment, intravenous injections of acriflavine are indicated, controlled by the temperature curve and the leukocyte count. One of his patients was a woman, 41 years old, with hepatic colic of five days' duration, fever, persistent pain around the gallbladder area and slight yellow color. Seven injections brought her temperature to normal. Two months later cholecystectomy was performed. Another case was in a girl, aged 27, who suffered for three years from constipation, continuous headache and fever. In the blood, biliary pigments were found and the face gave evidence of icterus. Heavy percussion of the gallbladder elicited acute pain. Acriflavine injections corrected the fever and she recovered.

Revista de Medicina y Cirugía de la Habana, Havana

32: 807-988 (Dec. 20) 1927

Tuberculosis. L. Ortega.—p. 818.
Treatment of Pulmonary Tuberculosis. G. Aldereguía.—p. 823.
Hepatectomy in Liver Tumors. J. A. Presno.—p. 845.
*Tropical Anemia. A. D. Albertini, A. Recio and E. Ortiz Rivas.—p. 862.
One Thousand Eight Hundred Electrocardiograms. O. Montoro and R. Pérez de los Reyes.—p. 876.
Diagnosis of Pulmonary Abscess. M. Viamonte and G. Aldereguia.—p. 893.
Chronic Appendicitis. N. Puente Duany and R. Machín.—p. 913.
Renal Function. A. G. Casariego.—p. 926.
Fractures. A. Guerra.—p. 932.
One Thousand Basal Metabolism Determinations. O. Montoro, N. Borrás and M. Fernández Muñiz.—p. 940.
Fat in Appendix. N. Puente Duany.—p. 948.
Hypermastia. P. Kouri y Esmeja.—p. 965.
*Kahn and Wassermann Tests. M. Suquet.—p. 980.

Tropical Chronic Anemia in Cuba.—Chronic anemia seems to be rare in Cuban negroes. Over 300 cases were observed by Albertini et al.—all in white persons. These cases are not typically pernicious and only a few may be attributed to sprue. Some liver disease seems to be involved. Minot-Murphy's treatment appears to be indicated. Calcium and the antirachitic vitamin should also be given. Whenever the blood sugar exceeds 120 mg. per hundred cubic centimeters, insulin should be administered. Serious cases require blood transfusion.

Comparative Study of the Kahn and Wassermann Tests.—Among 633 serums tested with the Wassermann and Kahn reactions, in thirty-five there was a disagreement. Fourteen were tested clinically; in thirteen the result agreed with that of the complement fixation test, in only one with that of the precipitation reaction. Kahn's test was almost equal to the Wassermann procedure in untreated cases, but it proved inferior in treated and in old cases.

32: 989-1022 (Dec. 25) 1927

*Treatment of Contracted Pelvis. J. Ramirez-Olivella.—p. 989.
Embryonic Cyst in Leg. R. Cuervo, N. Puente Duany and I. Espinosa.—p. 1003.

Subcutaneous Symphyseotomy in Labor.—In Cuba cutaneous symphyseotomy has been performed in more than 100 cases of labor, invariably with excellent results. Hemorrhage, thrombophlebitis or gait disturbances have never developed. Only three cases of urinary incontinence with tears occurred, all in primiparae with forceps delivery. The operation is indicated in disproportion between the pelvic measurements and the size of the fetal head, but not in a frankly contracted pelvis. Pelvic narrowing is rather uncommon in Cuba, and, when existing, belongs to the moderate type. The introduction of symphyseotomy has kept down the number of cesarean sections.

Revista Méd.-Quirúrgica de los Hospitales, Bogota

3: 45-89 (Oct.) 1927

*Chronic Appendicitis. G. Esguerra Gomez.—p. 49.
American Leprosariums. J. I. Chala and F. De P. Barrera.—p. 66.

Roentgen Rays for Diagnosis of Chronic Appendicitis.—As a rule, the appendix empties itself with the cecum or several hours later. When the appendix can be seen alone and independent of the shadow of the cecum, it is of importance in diagnosis. When the appendix is readily visible, the operation will be an easy one.

Sciencia Médica, Rio de Janeiro

6: 1-50 (Jan.) 1928. Partial Index

*Epidermophytosis. A. Da Matta.—p. 1.

Treatment of Epidermophytosis.—Of nineteen cases of epidermophytosis, two were acute and the remainder chronic. Two were in males and seventeen in females. The inner surface of the lower extremities and the genital and anal areas were the parts most affected. In only one case were the toes involved. The lesions were usually multiple. The responsible organism was demonstrated in only thirteen cases: *Epidermophyton cruris*, twelve; *Epidermophyton rubrum*, one. Treatment proved invariably successful. An ointment, including, in addition to the usual salicylic preparations, 10 per cent chrysarobin and gutta-percha solution proved most efficient.

Semana Médica, Buenos Aires

35: 373-432 (Feb. 16) 1928

Pernicious Anemia, Glomerulonephritis, Syphilis and Gastric Cancer. J. R. Goyena.—p. 373.
Low Protein Diet. T. Martini and C. Cardini.—p. 383.
Prevention of Tuberculosis in Schools. T. A. Tonina.—p. 389.
Infant Mortality at Rosario. P. P. Piñero García.—p. 392.
Artificial Pneumothorax Details. F. Etcheverry Boneo.—p. 413.
*Antibodies in Infants. M. Schteingart and P. R. Cervini.—p. 415.
Leiomyoma of Stomach. O. Schneidewind.—p. 416.
Renal Epithelioma. A. Montenegro, A. Quintana and G. Lagleyze, Jr. —p. 420.
Case of Acromegaly. O. P. Curti.—p. 422.
Acriflavine in Gonorrhea. F. Vita.—p. 425.

Antibody Production in Infants.—A study of eleven infants, aged from 41 days to 13 months, showed consistently agglutinin and antibody production after typhoid inoculation. The dose of vaccine must, however, be sufficient and not smaller than for adults.

Vida Nueva, Havana

21: 1-74 (Jan. 15) 1928

*Mild Leprosy. G. M. Caballero.—p. 1.
Mutilating Syringomyelia. G. M. Caballero.—p. 63.

Atypical Leprosy.—In Cuba for a number of years the term "clappa" (mutilating acropathy) has been applied to a combination of sporotrichosis with leprosy. The disease is recognized by its rather acute onset and preference for the extremities. New nonleprous lesions may develop secondarily. Septic processes may even threaten life. The ulcers may heal, and leave as the only sign of the disease some sinuses and scars. Caballero describes twelve typical cases.

Archiv für exper. Pathologie u. Pharmakol., Leipzig

128: 1-132 (Feb.) 1928

*Neutralizing Toxic Effect of Hydrocyanic Acid. A. W. Forst.—p. 1.
Thyroid Function and Autonomic Nervous System. O. Krayer and G. Sato.—p. 67.
*Study of Effect of Drugs on Uterus in Situ. K. Schübel and W. Teschendorf.—p. 82.
Substratum of Contraction of Muscles of Frog: Physiologic and Pharmacologic Peculiarities of Certain Muscle Fibers. H. Sommerkamp. —p. 99.
Distribution and Excretion of Iodine Following Administration of Thyroid Products. O. Krayer.—p. 116.
Effect of a Digitalis Preparation on Blood Calcium and Potassium. P. Ginsburg.—p. 126.

Neutralizing Toxic Effect of Hydrocyanic Acid.—In order to make use of hydrocyanic acid as a therapeutic agent to check the growth of tumors, Forst made some studies and researches to find some agent which would lessen or neutralize its poisonous effect. He found that glucose alone and insulin plus glucose protect against four times the fatal dose of the acid. But dioxyacetone, administered intravenously, in doses of from 6 to 20 cc., protects against nine times the fatal dose. In some instances, the effect of the acid on respiration was entirely nullified. However, it was not always possible to ward off death, although symptoms of poisoning were checked. A combination of dioxyacetone with colloidal sulphur (3 to 6 cc.) did effect a complete cure even when ten times the fatal dose of acid had been given.

Study of Effect of Drugs on Uterus in Situ.—Schübel and Teschendorf describe a method whereby the parturient uterus of the cat and rabbit is used to study the normal contracture of this organ and the effect thereon of various drugs. The uterus is injected with iodized oil and serial roentgenography makes the record for study. The method is said to be vastly superior to the uterine strip method.

Archiv für Schiffs- und Tropen-Hygiene, etc., Leipzig

32: 57-108 (Feb.) 1928

Causes of Active and Latent Periods in Malaria. S. Konsuloff.—p. 57.
Experiences with Amebic Dysentery in Tiberias in 1926. I. Gourvitch. —p. 62.
*Pathogenesis of Blackwater Fever. J. L. Rapoport.—p. 69.
Changes in Retinal Vessels in Malaria. G. F. Hollmann.—p. 82.
Biology of Anopheles in Macedonia. D. Guelmino.—p. 87.
*Intracutaneous Reaction in Climatic Bubo. O. Fischer.—p. 91.

Pathogenesis of Blackwater Fever.—In a case of death from blackwater fever, Rapoport succeeded in obtaining the kidneys and studying them carefully for the purpose of finding the cause of this condition. The epithelium of the kidney tubules was degenerated and desquamated to a considerable extent. Many casts were present. The basal membrane and the walls of the neighboring capillaries were also involved in the destructive process. Therefore the blood from the overfilled capillaries easily made its way into the kidney tubules; the erythrocytes were rapidly destroyed and the hematuria was masked by the hemoglobinuria.

Intracutaneous Reaction in Climatic Bubo.—In cases of climatic bubo Fischer injected intracutaneously pus aspirated from one of the lymph nodes and mixed with from five to eight times its quantity of physiologic sodium chloride solution. In positive cases, a small nodule appeared at the site of the injection from twenty-four to forty-eight hours later. This nodule is red, tender on pressure and remains for from ten to fourteen days. This observation is like that made by Frei in cases of lymphogranuloma inguinale.

Deutsches Archiv für klinische Medizin, Leipzig

158: 257-380 (Feb.) 1928

Study of Goiter Cases in Munich. H. Spatz.—p. 257.
Studies of Aleukemic Myelosis. E. Hartmann and K. Voit.—p. 336.
Simultaneous Recording of Two Leads of Electrocardiogram. G. Eismayer.—p. 345.
*Death of the Human Heart. P. Martini and J. Sckell.—p. 350.

Death of the Human Heart.—Martini and Sckell made electrocardiograms of eighteen persons at the point of death for the purpose of determining the actual moment of cessation of life. This was shown to be nine minutes and thirty-eight seconds after apparent death.

Monatsschrift f. Geburtshülfe u. Gynäkologie, Berlin

78: 159-236 (Feb.) 1928

Determination of Lipoids in Obstetric and Gynecologic Cases by Means of Biologic Reaction. W. H. Peretz.—p. 159.
*Status Epilepticus and Pregnancy. E. Waldstein.—p. 164.
Case of Mola Hydatidosa: Perforatio Uteri, Amputatio Uteri Supravaginalis. J. I. Kallinikoff.—p. 181.
Eclampsia with Chorionepithelioma in Fifth Month. C. Wigger.—p. 183.
Placental Endothelioma. S. Frayman and A. Gorjajeva.—p. 185.
Fibromyoma of Vagina. A. Stein.—p. 191.
Actinomycosis of Ovary and Fallopian Tube. A. Stein.—p. 200.
*Intraperitoneal Hemorrhages in Fibromyoma of Uterus. A. J. Hoffmann. —p. 210.

Status Epilepticus and Pregnancy.—Waldstein relates the case of a quadrigravida who was unconscious when first seen but whose sister stated that she had been having frequently occurring convulsions. Careful examination led to the diagnosis of status epilepticus. Frequently administered doses of phenobarbital failed to control the convulsions. Finally, it was decided to perform a cesarean section in order to save the life of the child. The child was delivered alive. For thirty hours after delivery the woman had no convulsions, then they recurred at intervals of from five to fifteen minutes, lasting from one to two minutes. She died on the third day after having had 180 postpartum convulsions, which phenobarbital failed to influence. This is said to be the only case of the kind in which a living child was delivered.

Intraperitoneal Hemorrhages in Fibromyoma of Uterus.—These hemorrhages occur rarely. Their mortality is 17.86 per cent. The symptoms are mainly those of shock and the presence of the fibromyoma. The bleeding comes from the

subserous veins traversing the surface of the tumor and the cause is their enlargement due to menstruation, pregnancy, inflammation, or twisted pedicle in connection with trauma. The only rational treatment is laparotomy.

Monatsschrift für Kinderheilkunde, Leipzig

38: 1-192 (Jan.-Feb.) 1928

Intravitam Cultivation of Bacteria in Cantharides Bladders and Preservation of Pathogenic Germs in Leeches. C. Leiner.—p. 1.
Quantitative Spectroscopic Examination of Blood. W. Kollath, B. Leichtentritt and R. Suhrmann.—p. 5.
*Treatment of Pneumococcic Empyema in Childhood with Ethylhydrocuprein Hydrochloride. P. Leitner.—p. 10.
*Pneumococcus Peritonitis in Children. H. Salzer.—p. 16.
Anthropometric Studies in Children. W. Kornfeld.—p. 22.
Pediatric Development. R. Kochmann.—p. 28.
Metabolism in Rickets. P. György.—p. 31.
The Antirachitic Principle. H. Beumer.—p. 44.
*Treatment of Rickets. Huldschinsky.—p. 52.
*Treatment and Prevention of Rickets. I. Jundell.—p. 59.
Activation of Ergosterol by Phosphorus. W. Stoeltzner.—p. 63.
Hexosemonophosphatase and Growth. O. Jäger.—p. 65.
*Ferment Studies in Rickets. H. Hentschel.—p. 67.
Ergosterol Treatment of Rickets. H. Vollmer.—p. 70.
Biochemistry of Experimental and Spontaneous Rickets. O. Ullrich.—p. 74.
Growth of Cartilage in Vitro. F. Demuth.—p. 79.
Iodine Metabolism. E. Maurer.—p. 98.
Physiology of Digestion in Infants. E. Freudenberg.—p. 101.
Sucking Reflex and Testing of Taste in Young Infants. Eckstein.—p. 109.
Excretion of Tryptase in Infant Stool. O. Budde.—p. 112.
A Saliva Ferment. K. Scheer and Fuhrberg.—p. 115.
Dietetic Treatment of Diabetes Mellitus in Child. R. Priesel and R. Wagner.—p. 124.
Disturbances of Carbohydrate Metabolism in Diphtheria. A. Elkeles and F. Heimann.—p. 128.
Experimental Dehydration and Acid-Base Metabolism. E. Schiff.—p. 133.
Pathogenesis of Intoxication. G. Bessau and S. Rosenbaum.—p. 138.
Amino-Acids and Water Metabolism. A. Nitschke.—p. 145.
Disturbances of Metabolism in Water Deficiency. H. Mautner.—p. 146.
Water Metabolism in Infancy. Bosch.—p. 149.
Roentgenotherapy of Bronchopneumonia, Especially in Childhood. Fried.—p. 158.
Clinical Picture of Mediastinal Pleuritis. P. Frick.—p. 163.
Institute for Mothers and Children in Leningrad. Hoffmann.—p. 167.
Equivalent Endocrine Disturbances in Nursing Mothers and Infants. R. Neurath.—p. 176.
Hematology of Measles. F. Redlich and Z. Maternowska.—p. 178.
Physiologic Craniotabes. K. Fuerst.—p. 185.
Case of Megacolon Transversum Congenitum. K. Krombach.—p. 190.

Treatment of Pneumococcus Empyema in Childhood with Ethylhydrocuprein Hydrochloride.—The earlier the ethylhydrocuprein hydrochloride treatment of pneumococcus empyema is begun, the shorter will be the period before recovery. The first two or three interventions (puncture, injection and introduction of the compound into the pleural space) should be repeated at three or four day intervals. The irrigation of the pleural space—according to Gralka's method with 0.5 per cent ethylhydrocuprein hydrochloride solution—seems to be of great advantage. One may safely inject 25 mg. of the medicament per kilogram of body weight. Great care should be taken of the site of injection especially in young infants. In seven out of eight cases, Leitner obtained complete cure. In the eighth case, in which there was also tuberculosis, great improvement followed the injections.

Pneumococcus Peritonitis in Children.—Every pneumococcus peritonitis is at first general and then becomes encysted. The disease is not extremely rare. In three years, in which there were fifty-five cases of appendicitis in girls and ninety-nine in boys, Salzer found nine cases of pneumococcus peritonitis, all in girls. When the cases are diagnosed and are not operated on early, there are more recoveries.

Treatment of Rickets.—Huldschinsky believes, from his experience, that craniotabes is not a rachitic softening but a rachitic growth disturbance, which manifests itself in a thinning of the cranial bones. Healing of such a secondary osteoporosis does not follow the laws of the recalcification of osteoid tissue but of the healing of rachitic porotic bone, which often takes years. In treating rickets, florid rickets should be prevented. The author therefore prescribed prophylactic ultraviolet irradiation for every suspicious case, as soon as the age of 3 months was reached, later he reduced this to 1½ or 2 months. The twenty patients each received from twenty-five to thirty treatments per month. Of thirty-eight children without craniotabes, examination of the fontanelle, the age of walking, the dentition, the spine and the degree of thickening of the epiphyses disclosed slight symptoms in eight cases. Of forty-five patients with craniotabes, such symptoms were present in twenty-four. None of the patients had severe rachitis. In no case did indirect irradiation give better results than direct, but in the most favorable cases it gave the same results.

Prevention and Treatment of Rickets.—Of each of five feeble pairs of twins, Jundell treated one child prophylactically with cod liver oil (without phosphorus); the others were left untreated. Up to the time at which the maximum development of rickets might be expected, the children in each pair received the same food. The children remained continuously in red light (only during the winter months was the red paper removed from the windows). All the children of pairs 2, 3 and 4, as long as they received butter meal food, received also 3 teaspoonfuls of lemon juice daily. Of the first pair, who received no lemon juice, one child, the one that had been treated prophylactically against rickets, became ill with a slight case of infantile scurvy. The prophylactically treated children remained, according to all examinations, free from rickets, while all the untreated children had the disease more or less severely. In the first months of life there appeared in the children treated with cod liver oil, as well as in the untreated children, a more or less marked craniotabes. In the untreated children this softness remained longer than in the treated children. The clinical, chemical and roentgenologic data show that craniotabes is not a rachitic symptom. Further experiments demonstrated that rickets can be cured by medicodietetic treatment just as quickly as through irradiation. One rachitic child was treated with thyroid tablets and cod liver oil with good results.

Ferment Studies in Rickets.—The results of Hentschel's investigations are tabulated. The blood of three infants whose diseases seemed to have no influence on glycolysis exhibited marked glycolytic power. After two hours of glycolysis a disappearance of inorganic phosphoric acid was demonstrable in the blood in all three cases. In dystrophy and pneumonia with increased glycolysis, the inorganic phosphoric acid content of the blood remained the same or increased. Defective glycolysis seems to occur when the metabolism is inclined toward acidosis.

Strahlentherapie, Berlin

28: 211-430, 1928

*Twenty-Five Years of Experience with Heliotherapy in Surgical Diseases. O. Bernhard.—p. 211.
*Heliotherapy of Surgical Tuberculosis. E. Kisch.—p. 227.
*Heliotherapy in the High Alps. A. Rollier.—p. 259.
Seashore Treatment of Surgical Tuberculosis. K. Haeberlin.—p. 282.
Treatment of Tuberculosis of Children in the Marine Hospital at Sahlenburg. H. Denks.—p. 299.
*Modern Status of Finsen Light Therapy. A. Reyn.—p. 306.
Light and Skin Diseases. G. Stümpke.—p. 325.
Light Treatment in Diseases of Eye. A. Birch-Hirschfeld.—p. 333.
Light in Treatment of Diseases of Women. H. Guthmann.—p. 341.
Rickets and Effect of Light. P. György.—p. 359.
Antirachitic Factor in Cod Liver Oil. A. Adam.—p. 368.
Light Treatment in Rickets. H. Vollmer.—p. 377.
Two Different Modes of Action of Phototherapy in Experimental Rickets. E. Rekling.—p. 381.
Incidence of Rickets and Tuberculosis in Iceland. L. Gmelin.—p. 386.
Light Therapy in Internal Medicine. A. Laqueur.—p. 389.
Light Therapy in Pulmonary and in Laryngeal Tuberculosis. O. Ziegler.—p. 397.
Light Therapy of Laryngeal Tuberculosis with the Carbon Arc Light. O. Strandberg.—p. 406.
Limitation of Indications for Artificial Sunlight Treatment in General Practice. A. Lippmann.—p. 411.
Light Therapy in Veterinary Medicine. P. Henkels.—p. 423.

Twenty-Five Years of Experience with Heliotherapy in Surgical Diseases.—Heliotherapy is the method of choice in surgical tuberculosis. The advantages of its application in mountainous regions are due to the greater intensity of the sunlight, its greater warmth, light and chemical properties, its richness in violet and ultraviolet rays and its longer duration. Lowered atmospheric pressure, dry, clear air, free from dust and bacteria, constitute some of the other favorable factors. In his twenty-five years of experience at St. Moritz, Bernhard has treated with success the following

types of lesions: (1) Wounds of various types, severe traumatizations of soft tissues, ulcerations due to circulatory or neurotrophic disturbances, gangrene, frost bites, roentgen-ray burns, and infected wounds. (2) Osteomyelitis. (3) Fractures. (4) Syphilitic ulcerations refractory to the specific treatment. (5) Skin carcinoma after operative removal. (6) Rickets. (7) The large field of surgical tuberculosis. He has treated 2,000 cases of surgical tuberculosis embracing skin, tendon, mucous membrane and lymph gland tuberculosis, that of bones and joints, of the urogenital tract, of serous surfaces, bowel tuberculosis, tuberculosis of the visual apparatus, and tuberculosis with multiple localizations. Under heliotherapy practically all cases of tuberculous spondylitis and hip disease get well without, or with only slight, deformity. In his first 1,000 cases of surgical tuberculosis treated by heliotherapy, 858 were cured, 120 were improved, fourteen were unimproved and eight died, a mortality of 0.8 per cent. Six of the unimproved died later of their tuberculosis bringing the mortality up to 14, or 1.5 per cent. Seventy cases of tuberculous serous peritonitis were treated, with only one death, due to tuberculous involvement of the lungs. The rest were all cured. He attributes the remarkable results to the bactericidal action of the actinic rays, to the stimulation of epithelization, to local hyperemia and to improvement in the nourishment of the parts.

Heliotherapy of Surgical Tuberculosis in the Lowlands.—Kisch holds that the superior advantages of the high Alps over the lowlands for heliotherapy have been greatly exaggerated. His results over a period of ten years in the vicinity of Berlin paralleled almost exactly those of Alpine institutions. Heliotherapy is an activation, rather than a specific therapy. Hence, the fact that the lowlands lack the continuous succession of sunny days experienced in the Alps is not a disadvantage, since uninterrupted treatment is not desirable. Kisch is convinced that the therapeutic value of heliotherapy is chiefly to be attributed to the power of the sun's rays to produce hyperemia. He describes the plan on which he has given heliotherapy successfully to patients with advanced tuberculosis. It has proved particularly valuable as a preoperative and postoperative treatment with thoracoplasty.

Heliotherapy in the High Alps.—The reaction of the organism, particularly the diseased organism, to the sun's rays is not well understood. The most important part, Rollier states, is probably played by the light. The latter influences the fundamental processes of vegetative existence. The advantages of treatment in the Alps are discussed. He lays particular stress on the value of the complete sun bath. He never saw congestive phenomena, even in cases complicated by pulmonary tuberculosis. Lupus healed just as rapidly when the lesions themselves were screened, while the body was exposed. The skin plays an enormous rôle in the curative process. He considers abundant pigmentation a sign of a good local and general reaction. The warm rays produce a superficial and a deep anesthesia so that the pain of tuberculous joints and muscle contractures disappear after a few weeks of treatment. Fungous processes in the joint either disappear or undergo fibrosis. Muscles regain their volume and tone. The effect of the treatment on disappearance of tuberculous foci, formation of new joint surfaces and bone calcification are demonstrated in his roentgenograms. He believes that cold abscesses stimulate immune-body production and for that reason should be punctured as late as possible. Heliotherapy likewise exerts a splendid effect on certain nervous diseases, on anemia and rickets and particularly on certain common skin diseases such as acne, psoriasis and eczema.

Modern Status of Finsen Light Therapy.—Reyn states that the adoption of the principle of exposure of the entire body has made a marked difference in the results of the Copenhagen Finsen Institute. Whereas, with the local exposure only 70 per cent of favorable cases were cured, the combination of the local and general exposure has given 90 per cent of cures. Severe cases, refractory to local treatment, yielded to the combination of the two methods. The length of treatment was materially shortened thereby.

Zeitschrift für Krebsforschung, Berlin

26: 183-262 (Jan. 26) 1928

*Determination of Bismuth in Tumors of Animals. L. Califano.—p. 183.
*Rôle of Blood Vessels in Genesis of Tar Tumors. L. Kreyberg.—p. 191.
Aims and Results of Cancer Research. W. Cramer.—p. 194.
*Clinical Value of Roffo's Cancer Reaction. H. Hilarowicz and W. Jankowska-Hilarowicz.—p. 214.
Humoral and Cellular Growth Factors of Cancer Cells. A. Fischer.—p. 228.
Measuring Growth of Cancer Cells in Vitro. A. Fischer and H. Laser.—p. 235.
Growth of Cancer Cells and Composition of Surrounding Medium. A. Fischer and H. Laser.—p. 239.
Growth of Cancer Cells and Hydrogen Ion Concentration of Medium. A. Fischer.—p. 250.
Refractometric Study of Blood Serum, Especially of Cancer Patients. F. P. Tinozzi.—p. 254.
Intravenous Injection of Ethyl Alcohol in Cancer. D. Thursz.—p. 260.

Histochemical Determination of Presence of Bismuth in Tumors of Animals.—Califano says that normal tissue cells take up bismuth readily, but not so the neoplastic cells. Any bismuth present in a tumor as the result of ingestion of bismuth by the host is contained in the stroma and not in the tumor cells themselves. This difference in chemical affinity between normal tissue cells and cancer cells is emphasized.

Rôle of Blood Vessels in Genesis of Tar Tumors.—Kreyberg found that coal tar induces a strictly local, enduring and high grade anemia which bears some relation to the ensuing hyperplasia.

Clinical Value of Roffo's Cancer Reaction.—Roffo's test for cancer consists in the addition of five drops of a 0.1 per cent aqueous solution of neutral red to 2 cc. of blood serum. The serum of cancer rats takes on a red color; normal serum a yellow color. Of sixty-three human cancer patients tested by Roffo, all gave a positive reaction and 113 noncancer patients gave a negative reaction. Hilarowicz and Jankowska-Hilarowicz were unable to duplicate these observations. Of twenty cancer patients only six gave a positive reaction, two a doubtful one and in twelve the reaction was negative. Of twenty-two noncancer patients, seventeen gave positive, three doubtful and only three negative reactions. The cases of pulmonary tuberculosis (five) gave very strong positive reactions.

Zeitschrift für Tuberkulose, Berlin

49: 401-464 (Feb.) 1928

Study of Three Hundred School Children with Healing and Healed Primary Complex of Tuberculosis. K. Nüssel.—p. 401.
*The Abdomen in Asthenics and Sthenics (Pyknics). E. Hoke and J. Löwy.—p. 417.
*Asthmatic States as Ultimate Results of Tuberculous Infections; Tuberculous Symbiosis. F. Bialokur.—p. 420.

The Abdomen in Asthenics and Sthenics (Pyknics).—Hoke and Löwy assert that persons with a "high" abdomen seldom have pulmonary tuberculosis, and when they do have it, the course of the disease is materially modified. It is more mild and toxic symptoms are usually absent. There may also be present a chronic bronchitis or an emphysema. A connection is seen between pregnancy and its favorable effect on an existing tuberculosis. In short, the high abdomen is regarded as an index of bodily resistance to this disease.

Asthmatic States as Ultimate Results of Tuberculous Infections; Tuberculous Symbiosis.—Bialokur is convinced that bronchitis, emphysema and asthmatic conditions combined with pulmonary tuberculosis are really caused by the latter. But such a tuberculosis is not active, nor does it lead to cavitation. The pathologic picture in these cases Bialokur terms "paratuberculosis." It exists only in persons who are resistant to the usual forms of pulmonary tuberculosis.

50: 1-112 (Feb.) 1928

Location of Primary Lesion of Pulmonary Tuberculosis. H. Alexander.—p. 3.
Diagnosis of Early Pulmonary Tuberculosis. K. Lydtin.—p. 16.
Significance of Pleuritis in Development of Pulmonary Tuberculosis. H. Oeffner.—p. 17.
*Dissemination of Tuberculosis by Contaminated Objects. H. Braeuning and Wankel.—p. 21.
*Pathogenicity of B C G. H. Chiari, E. Nobel and A. Solé.—p. 24.
Prophylactic Vaccination of New-Born Infants Against Tuberculosis with B C G. A. Calmette.—p. 38.
Remarks on Above. E. Nobel.—p. 44.

*Immunizing Action of B C G (Calmette). B. Lange and K. Lydtin.—p. 45.
Use of Specific Thymus Extract Vaccine for Immunization Against Tuberculosis. G. Schröder.—p. 61.
Significance of Alveolar Epithelium in Sputum. E. Salomon.—p. 65.

Dissemination of Tuberculosis by Contaminated Objects.—Several women with open tuberculosis were asked to cough, but not expectorate, into handkerchiefs for three consecutive days. These handkerchiefs were washed out thoroughly in physiologic sodium chloride solution which was then centrifugalized. The sediment thus obtained was injected subcutaneously into two guinea-pigs. When the animals were examined at necropsy, no evidence of tuberculosis was found. The same experiment was repeated with handkerchiefs into which tuberculous patients had expectorated. This time all of the guinea-pigs developed tuberculosis. From these experiments it is evident that spray droplets from a coughing tuberculous patient are relatively noninfectious, whereas the sputum is highly infectious.

Pathogenicity of B C G.—On the basis of some carefully performed experiments, Chiari et al. conclude: (1) Calmette's B C G vaccine is capable of producing not only specific tuberculous changes in guinea-pigs, but even death. (2) The resistance of guinea-pigs to both fully virulent bacilli and to the bacilli in the B C G vaccine varies. (3) Giving the vaccine by mouth produces no changes presumably because the bacilli are usually eliminated without having infected the carrier. (4) If B C G vaccine does produce immunity, this is always the result of infection. (5) Calmette's contention that the tuberculous changes produced heal spontaneously cannot be proved with certainty in the guinea-pig. (6) Contrary to what Calmette maintains, the virulence of his vaccine can be increased by repeated inoculation into healthy animals. (7) Preventive vaccination with B C G vaccine should still be limited to animal experimentation.

Experimental Studies on the Immunizing Action of B C G. Lange and Lydtin hold that vaccination of guinea-pigs and rabbits with large quantities of B C G produces a tuberculous infection, but this infection is always a harmless one and soon disappears. The repeated inoculation of animals with B C G does not increase the virulence of the bacilli. The resistance of guinea-pigs to virulent tubercle bacilli can be raised by B C G vaccinations, but this increase in resistance is limited in extent and is transient. Their observations confirm Calmette's statements concerning the harmlessness and the immunizing property of his culture. They do not believe, however, that the effectiveness of peroral administration of B C G has been definitely demonstrated.

Zeitschrift für Urologische Chirurgie, Berlin

24: 1-190 (Feb. 25) 1928

*Pyelonephritic Contracted Kidney. K. Haslinger.—p. 1.
*Hypernephroma. G. I. Gasparian.—p. 84.
Influence of Operative Procedures on Renal Function in Nephrolithiasis and Nephroptosis. N. A. Smirnov.—p. 143.
Vasorchidocystostomy: New Method of Implanting Spermatic Cord into Testicle. R. Lichtenstern and M. Gara.—p. 156.
Ureteral Twisting and Angulation and Its Effects on the Kidney. A. Wolotzki.—p. 173.

Contracted Kidney of Pyelonephritic Origin.—The contracted kidney that is the result of an acute inflammatory process in a kidney, or that develops in the course of a chronic renal infection, is a distinct entity, different in its causation, symptoms, pathology and treatment from the contracted kidney of the internist. The process may involve both kidneys or only one. Infection limited to one kidney may in time involve the other kidney. The condition may develop as the result of a single or repeated infection, or as the result of a stone or of a chronic infectious process in the tonsils, teeth, or genital organs. The histopathologic changes are characterized by the development of infectious, indurative, sclerotic lesions leading to shrinkage of the organ. Dilatation of the renal pelvis is fairly constant. Inflammatory perinephritic processes as well as strictures of the urinary passages are frequent forerunners of a pyelonephritic contracted kidney. Among the symptoms are pain and rises of temperature, the latter especially in uremic states. Of importance is the finding of pus and bacteria in a catheterized specimen. Functional insufficiency is frequently present. Pyelography and ureterography aid in diagnosis. Conservative treatment should always be attempted. This includes medical treatment, ureteral sounding and flushing of the renal pelvis. Surgical methods, in case of failure of conservative treatment to bring about improvement, consist of decapsulation, of freeing the kidney from pain-producing scars, and of decapsulation combined with nephrotomy. Nephrectomy is indicated in a very few cases. In twenty cases observed by the author in the Hochenegg clinic, the colon bacillus alone was found in sixteen; in four, other bacteria were present in addition to colon bacilli; in two, tubercle bacilli were present. Four patients had kidney stones, one in the ureter, five presented ureteral stenosis, in ten there was infection of the genital organs and in four the process was the result of perinephritic inflammation.

Hypernephroma.—A careful analysis of cases of hypernephroma from the clinic of Feodoroff (Leningrad) and of other leading genito-urinary surgeons is presented. It is the most frequent of all renal tumors. The clinical course presents two stages, a benign and a malignant; it never fails to pass on to the malignant state. The diagnosis is not difficult and the prognosis is relatively good, even in the early stages of malignancy, if surgery is resorted to. Because of the characteristic tendency to early metastases in distant parts of the body, a radical cure is impossible even in the early stages. Metastases may be found anywhere in the body with the exception of the thymus. The method of spread is by the way of the blood stream, lymphatic spread occurs only in advanced stages of the disease. The prognosis is made decidedly worse by the involvement of the renal capsule and of the regional lymph glands. The growth of metastases is somewhat retarded by the removal of the original tumor. A fairly good prognosis may be given in cases in which the original tumor and the metastases can be removed. Not infrequently the original tumor passes unnoticed while the metastases are recognized. Postoperative roentgen-ray treatment improves the prognosis. The author studied the tumor in serial sections and found poorly developed kidney structure with a new growth which developed from embryonal rests within the normal kidney. The tubules of the embryonal renal tissue showed transitional forms of cells which resembled tumor cells.

Zentralblatt für Gynäkologie, Leipzig

52: 345-408 (Feb. 11) 1928

*Carbon Dioxide Tension in Blood: Acidosis and Relation to Metabolism in Pregnancy. H. R. Schmidt.—p. 346.
*Oxygen Needs of Fetus: Two Successful Cesarean Sections After Death. H. Küstner.—p. 350.
Clinical Study of Ovarian Hormone. Murken.—p. 356.
Is Genital Prolapse Caused by Late First Pregnancy? F. Lönne.—p. 360.
Conjugata Lateralis. H. Baumm.—p. 369.
Treatment of Erosion. O. Köster.—p. 371.
Cesarean Section Because of Peritonitis Caused by Perforating Appendix in Last Month of Pregnancy. O. Wolfring.—p. 374.
*Partial Loosening of Normally Situated Placenta Following External Trauma. E. Schmitz.—p. 376.

Carbon Dioxide Tension in the Blood: Acidosis and Relation to Metabolism in Pregnancy.—Schmidt advises that pregnant women should be placed on a diet rich in carbohydrates but containing very little fat. Fat is transformed in the liver into glycogen. Too much fat in the diet leads to lipemia. The intermediate products of fat digestion are the ketone bodies. These combine with the alkali reserve of the blood and reduce the carbon dioxide tension.

Oxygen Needs of Fetus: Two Successful Cases of Cesarean Section After Death.—Küstner's two cases are regarded as having been pregnancy toxemia. Both patients were primiparae, aged 39 and 37, respectively. Both had been well and healthy before becoming pregnant. A terminal asphyxia preceded death in both cases. Evidence of heart disease was absent. One woman suffered from a very severe dyspnea for about twenty-five minutes before death supervened. Her child was delivered by abdominal section five minutes after her death. It was alive and remained so. In the second case the terminal asphyxia lasted about forty-five minutes. The child was delivered by section about two minutes after the mother's death. It was alive and remained so. The author concludes that the fetus needs but little oxygen to survive and that it is the function of the placenta to deliver oxygen

from the mother to the fetus—but that the fetus does not yield any of its oxygen supply to the mother even when her blood is laden with carbon dioxide.

Partial Loosening of Normally Situated Placenta Following External Trauma.—In the last month of her pregnancy, Schmitz' patient slipped on a wet floor and fell against a washstand, striking her abdomen sharply. About twelve hours later she was awakened by a desire to go to stool and found herself lying in a pool of blood. This blood was found to be coming out of the uterus—but labor pains were absent. Placenta praevia was suspected but the palpating finger failed to find the placenta. The child was delivered by version and extraction. The placenta was lying free in the vagina. It is surmised that it had been torn loose partially by the trauma—hence the copious bleeding.

Acta Pædiatrica, Stockholm

7: 191-404 (Feb. 28) 1928

*Incidence of Infection of Oslo School Children with Tuberculosis. T. Frölich.—p. 191.
Weight Development in Breast-Fed Infants During First Twenty-Six Weeks. C. Schiötz and H. Berghoff.—p. 216. In English.
Congenital Malformations of Urinary Tract in Children. J. C. Schippers and C. de Lange.—p. 249.
Are So-Called "A" Vitamins in Cod Liver Oil the Cause of Its Toxic Effect on Organism: Can Basal Diet, Complete as Regards So-Called "B" and "C" Vitamin Contents, Prevent This Toxic Effect? E. Agduhr.—p. 289. In English.
Prophylactic Value of Normal Blood Serum of Adults Against Whooping Cough. I. Jundell.—p. 319.
Tetany and Acidosis. P. Drucker.—p. 350.

Incidence of Tuberculous Infection in School Children.—In 1912, Frölich investigated the question of tuberculosis among 2,900 school children, aged 7, representing 66.1 per cent of the total number (4,388) of school children of that age. Each child was vaccinated with human and bovine tuberculin. Eighty-six per cent gave a positive reaction; 4.3 per cent had tuberculosis of the eyes, bones, joints and skin, and presented evidence of a resolving pleurisy. Four and eight-tenths per cent of the children reacting positively came from families having cases of open tuberculosis; 48.4 per cent lived in 631 houses from which 1,400 cases of tuberculosis had been reported to the health authorities. A reexamination of some of these cases was made in 1925. Of 1,830 children traced, 223 (12.2 per cent) developed some form of tuberculosis—4.9 per cent, severe pulmonary and meningitic forms; 7.3 per cent, milder forms—pleurisy and scrofula. Four and three-tenths per cent died before the age of 20—2.9 per cent from tuberculosis, 1.4 per cent from other causes. There was very little difference between males and females in any of these groups—except pulmonary tuberculosis, in which the girls predominated, 5.3 per cent as against 3.9 per cent. The death rate for girls was 3.9 per cent, for boys 2 per cent. Of 332 children who gave a negative reaction in 1912, thirty-one (9.3 per cent) developed tuberculosis later. The incidence of the various types of the disease was the same in this group, except for a smaller number of cases of scrofula.

Norsk Magazin for Lægevidenskapen, Oslo

89: 121-216 (Feb.) 1928

*Investigations on Acidosis in Athletes After Running. H. A. Salvesen.—p. 121.
*Acidosis in Acute Enteritis. J. Heimbeck.—p. 131.
*Tumor in Intervertebral Foramen. V. Magnus.—p. 136.
*Tumor of Cerebellum Treated Surgically. V. Magnus.—p. 141.
*Case of Delayed Meningeal Hemorrhage. V. Magnus.—p. 143.
Roentgenograms of Craniums with Cerebral Tumor. J. Landmark.—p. 147.
*Essential Thrombopenia with Hematomyelia. K. Evang.—p. 153.

Investigations on Acidosis in Athletes After Running.—The acidosis found by Salvesen in athletes after running 100, 400, 1,500 and 10,000 meters was most pronounced after 1,500 meters, when the decrease in the alkali reserve was as much as 30 volumes per cent, or 13.7 millimols. There was no relation between the degree of acidosis and the previous training or the time consumed in the run. After the 1,500 meter run, it was estimated that from 3.9 to 6.9 liters of tenth-normal acid was circulating in the organism. Only a small part of the acid was excreted in the urine during and after running; after the 10,000 meter run, the acid thus lost was even less than during the control period.

Acidosis in Acute Enteritis.—Heimbeck attributed the uremia, hyperglycemia, and acidosis in his case of acute gastro-enteritis in a man, aged 62, to anhydremia resulting from the gastro-enteritis. Recovery followed subcutaneous and oral administration of abundant fluids.

Tumor in Intervertebral Foramen.—In Magnus' case, a tumor in the intervertebral foramen of the sixth cervical vertebra, by its pressure on the dura and the cord between the sixth and seventh cervical segments, caused a mild Brown-Séquard syndrome. As the part of the tumor in the spinal canal was only half the size of a pea, he concludes that the symptoms were caused by pressure of the tumor on the underlying arteries radiating into the white matter of the cord, giving rise to a local ischemia without necrosis or glia proliferation, as the symptoms disappeared rapidly on removal of the tumor (sarcoma). He believes this to be the smallest lesion of the spinal cord published to date.

Tumor of Cerebellum Treated by Operation.—In 1921 Magnus operated on a girl, aged 14, with symptoms indicating tumor in the left cerebellum, probably also intercerebellar. No abnormal condition was seen apart from a slight prominence of the left cerebellum; on puncture there was an outflow of 3 or 4 cc. of yellow fluid. The intervention was well-borne and no signs of a cerebellar lesion were apparent for about two and a half years following. In 1924 he found left abducens paralysis and slight facial and trigeminal paralysis, with pronounced secondary atrophy of both optic disks, with limited field of vision on the nasal side, more marked in the right eye. Operation revealed destruction of the entire left lobe of the cerebellum by cystic degeneration of a glioma of egg-size, easily extirpated. The patient has remained well since, the facial and trigeminal paralysis continuing unchanged.

Case of Delayed Meningeal Hemorrhage.—The papillary stasis, hemiataxia, hemiparesis, and alexia in Magnus' patient, aged 50, without known trauma, led to the diagnosis of cerebral tumor, probably in the supramarginal gyrus, with sudden bleeding in the vicinity of the tumor, extending over the left parietal lobe and motor region. On osteoplastic trephination an organized hematoma was discovered under the dura, over the whole left hemisphere. The tumor was easily removed entire and the cavity was filled with sodium chloride solution. The hemiataxia, hemiparesis, and alexia disappeared after a week; the stasis of the optic disk proved refractory to treatment and vision in the left eye was lost. On discharge the patient reported a comparatively light blow on the head eleven weeks before onset of the symptoms. To this is ascribed the slow subdural hemorrhage, the chief cause, however, being seen in the brittle blood vessels of the alcoholic. The patient continues well and able to work.

Essential Thrombopenia (Werlhof's Disease) and Hematomyelia.—Sudden symptoms of total transverse lesion of the cord at about the level of the second dorsal vertebra, accompanied by severe radiating pains, occurred in Evang's patient, aged 30, who did not have syphilis but had a marked hemorrhagic diathesis. After one week the spinal fluid exhibited the Froin syndrome. In the course of six and a half months, practically no changes appeared in the loss of sensibility or voluntary motility, but there were transitions from flaccid paralysis to spastic paralysis with flexion contraction, and then to spastic paralysis with extension contraction. He considers the case one of typical chronic, nonrecurrent, essential thrombopenia complicated by grave hematomyelia He finds no evidence for a connection between the hematomyelia and a trauma of the spinal column well below the present lesion, sustained four years earlier.

CORRECTION

In The Journal, April 28, page 1418, the fifth title in the list of articles in the *Klinische Wochenschrift*, March 4, should read *Experiences with Terry's Improvement of His Rapid Method of Histologic Diagnosis* instead of *Improvement of Terry's Rapid Histologic Diagnosis.*